

				is infection (e.g., an infectious disease as described below under "Infectious Disease").
HSSGD52	813	<p>Activation of transcription through STAT6 response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Signal Transducers and Activators of Transcription (STAT6) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT6 transcription factors and modulate the expression of multiple genes. Exemplary assays for transcription through the STAT6 response element that may be used or routinely modified to test STAT6 response element activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-</p>	<p>A highly preferred indication is allergy.</p> <p>Another highly preferred indication is asthma.</p> <p>Additional highly preferred indications include inflammation and inflammatory disorders.</p> <p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders").</p> <p>Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below).</p> <p>Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative</p>

				<p>368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Georas et al., Blood 92(12):4529-4538 (1998); Moffatt et al., Transplantation 69(7):1521-1523 (2000); Curiel et al., Eur J Immunol 27(8):1982-1987 (1997); and Masuda et al., J Biol Chem 275(38):29331-29337 (2000), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.</p>	<p>Disorders”). Preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin’s disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt’s lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred</p>
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				indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
HSSGG82	814	Endothelial Cell Apoptosis	<p>Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Induction of apoptosis in endothelial cells supporting the vasculature of tumors is associated with tumor regression due to loss of tumor blood supply. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Lee et al., FEBS Lett 485(2-3): 122-126 (2000); Nor et al., J Vasc Res 37(3):</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells.</p>

				<p>209-218 (2000); and Karsan and Harlan, J Atheroscler Thromb 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (bAEC), which are an example of endothelial cells which line blood vessels and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac</p>
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					<p>hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under “Cardiovascular Disorders”). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization. Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors,</p>
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				<p>telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, restenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other</p>
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					<p>vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment /prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and</p>
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					<p>vascular disease.</p> <p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders").</p> <p>Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p>
					<p>A highly preferred indication is diabetes mellitus.</p> <p>An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure,</p>
					<p>Assays for the regulation of transcription through the FAS promoter element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and</p>
					<p>Regulation of transcription through the FAS promoter element in hepatocytes</p>
					<p>815</p>
					<p>HSUBW09</p>

				<p>agonists or antagonists of the invention) to activate the FAS promoter element in a reporter construct and to regulate transcription of FAS, a key enzyme for lipogenesis. FAS promoter is regulated by many transcription factors including SREBP. Insulin increases FAS gene transcription in livers of diabetic mice. This stimulation of transcription is also somewhat glucose dependent. Exemplary assays that may be used or routinely modified to test for FAS promoter element activity (in hepatocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Xiong, S., et al., Proc Natl Acad Sci U.S.A., 97(8):3948-53 (2000); Roder, K., et al., Eur J Biochem, 260(3):743-51 (1999); Oskouian B, et al., Biochem J, 317 ( Pt 1):257-65 (1996); Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol.</p>	<p>nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypermolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and</p>
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				<p>216:362–368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Hepatocytes that may be used according to these assays, such as H4IIE cells, are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary hepatocytes that may be used according to these assays include rat liver hepatoma cell line(s) inducible with glucocorticoids, insulin, or cAMP derivatives.</p>	<p>disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
	HSUBW09	815	Inhibition of squalene synthetase gene transcription.	<p>Reporter Assay: construct contains regulatory and coding sequence of squalene synthetase, the first specific enzyme in the cholesterol biosynthetic pathway. See Jiang, et al., J. Biol. Chem. 268:12818–12824(1993), the contents of which are herein incorporated by reference in its entirety. Cells were treated with SID supernatants, and SEAP activity was measured after 72 hours. HepG2 is a human hepatocellular</p>	



				carcinoma cell line (ATCC HB-8065). See Knowles et al., Science. 209:497-9 (1980), the contents of which are herein incorporated by reference in its entirety.	
	HSUBW09	815	CD152 in Human T cells		
	HSVBU91	816	Activation of transcription through cAMP response element (CRE) in pre-adipocytes.	Assays for the activation of transcription through the cAMP response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to increase cAMP, regulate CREB transcription factors, and modulate expression of genes involved in a wide variety of cell functions. For example, a 3T3-L1/CRE reporter assay may be used to identify factors that activate the cAMP signaling pathway. CREB plays a major role in adipogenesis, and is involved in differentiation into adipocytes. CRE contains the	A highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. An additional highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke,

				<p>binding sequence for the transcription factor CREB (CRE binding protein). Exemplary assays for transcription through the cAMP response element that may be used or routinely modified to test cAMP-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Reusch et al., Mol Cell Biol 20(3):1008-1020 (2000); and Klemm et al., J Biol Chem 273:917-923 (1998), the contents of each of which are herein incorporated by reference in its entirety. Pre-adipocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated.</p>	<p>impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). Additional highly preferred indications are complications associated with insulin</p>
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				<p>Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	resistance.
	HSVBU91	816	Activation of Hepatocyte ERK Signaling Pathway	<p>Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating hepatocyte cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting hepatocyte cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating hepatocyte cell differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting hepatocyte cell differentiation.</p>

				<p>activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., Biol Chem 379(8-9):1101-1110 (1998); Kyriakis JM, Biochem Soc Symp 64:29-48 (1999); Chang and Karin, Nature 410(6824):37-40 (2001); and Cobb MH, Prog Biophys Mol Biol 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Rat liver hepatoma cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary rat liver hepatoma cells that may be used according to these assays include H4Ile cells, which are known to respond to glucocorticoids, insulin, or cAMP derivatives.</p>	<p>A highly preferred embodiment of the invention includes a method for activating hepatocyte cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating hepatocyte cells. Highly preferred indications include disorders of the liver and/or endocrine disorders (e.g., as described below under "Endocrine Disorders"). Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as</p>
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					described below under "Infectious Disease"). A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the
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					<p>"Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture).</p> <p>An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p> <p>Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as</p>
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				<p>the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Shimizu, H., et al., Endocr J, 47(3):261-9 (2000); Salapatek, A.M., et al., Mol Endocrinol, 13(8):1305-17 (1999); Filipsson, K., et al., Ann N Y Acad Sci, 865:441-4 (1998); Olson, L.K., et al., J Biol Chem, 271(28):16544-52</p>	<p>associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment</p>
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				<p>(1996); and, Miraglia S et. al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety.</p> <p>Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated.</p> <p>Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. <i>Biochem. J.</i> 219: 547-551; Santerre et al. <i>Proc. Natl. Acad. Sci. USA</i> 78: 4339-4343, 1981.</p>	<p>(e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture).</p> <p>An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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HSVBU91	816	TNF $\alpha$ in Human T-cell 293T	Assays for the activation of transcription through the CD28 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate IL-2 expression in T cells. Exemplary assays for transcription through the CD28 response element that may be used or routinely modified to test CD28-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); McGuire and Iacobelli, J Immunol 159(3):1319-1327 (1997); Parra et al., J Immunol	A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-2 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-2 production. Additional highly preferred indications include inflammation and
HSVBU91	816	Activation of transcription through CD28 response element in immune cells (such as T-cells).		

				<p>166(4):2437-2443 (2001); and Butscher et al., J Biol Chem 3(1):552-560 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the JURKAT cell line, which is a suspension culture of leukemia cells that produce IL-2 when stimulated.</p>	<p>inflammatory disorders. Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. An additional highly preferred indication includes infection (e.g., AIDS, and/or as described below under "Infectious Disease").</p> <p>Highly preferred indications include neoplastic diseases (e.g., melanoma, renal cell carcinoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, melanoma (e.g., metastatic melanoma), renal cell carcinoma (e.g., metastatic renal cell carcinoma),</p>
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					<p>leukemia, lymphoma (e.g., T cell lymphoma), and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. A highly preferred indication is infection (e.g., tuberculosis, infections associated with granulomatous disease, and osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). A highly preferred indication is AIDS.</p> <p>Additional highly preferred indications include suppression of immune reactions to transplanted organs and/or tissues, uveitis, psoriasis, and tropical spastic paraparesis. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or</p>
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				<p>"Cardiovascular Disorders"). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
HSYAV50	817	<p>Activation of transcription through cAMP response element (CRE) in pre-adipocytes.</p>	<p>Assays for the activation of transcription through the cAMP response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to increase cAMP, regulate CREB transcription factors, and modulate expression of genes involved in a wide variety of cell functions. For example, a</p>	<p>A highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. An additional highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other</p>

				<p>3T3-L1/CRE reporter assay may be used to identify factors that activate the cAMP signaling pathway. CREB plays a major role in adipogenesis, and is involved in differentiation into adipocytes. CRE contains the binding sequence for the transcription factor CREB (CRE binding protein). Exemplary assays for transcription through the cAMP response element that may be used or routinely modified to test cAMP-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Reusch et al., Mol Cell Biol 20(3):1008-1020 (2000); and Klemm et al., J Biol Chem 273:917-923 (1998), the</p>	<p>diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypermolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the</p>
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				contents of each of which are herein incorporated by reference in its entirety. Pre-adipocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.	"Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). Additional highly preferred indications are complications associated with insulin resistance.
	HSYAV50	817	CXCR4 in HT1080		
	HSYAV50	817	IgG in Human B cells		
	HSYAV50	817	IFNg in Human T-cell 293T		
	HSYAV50	817	Activation of transcription through serum response element in immune cells (such	Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or	A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative

			as natural killer cells).	<p>routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T</p>	<p>highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications</p>
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				<p>cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under “Hyperproliferative Disorders”). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin’s disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt’s lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia,</p>
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					neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy". An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
	HSYAV50	817	SEAP in OE-21		
	HSYAV50	817	Activation of transcription through GAS response element in immune cells (such as T-cells).	Assays for the activation of transcription through the Gamma Interferon Activation Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response	Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other

				<p>element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Matikainen et al., Blood 93(6):1980-1991 (1999); and Hentinen et al., J Immunol 155(10):4582-4587 (1995), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the SUPT cell line, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant</p>
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					<p>osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.</p>
					<p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell</p>
					<p>Caspase Apoptosis Rescue. Assays for caspase apoptosis rescue are well known in the art and may be used or routinely modified to assess the ability of the polypeptides of the invention (including antibodies and agonists or</p>
					<p>Protection from Endothelial Cell Apoptosis.</p>
					<p>818</p>
					<p>HTAEE28</p>

			<p>antagonists of the invention) to inhibit caspase protease-mediated apoptosis. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis rescue of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Romeo et al., Cardiovasc Res 45(3): 788-794 (2000); Messmer et al., Br J Pharmacol 127(7): 1633-1640 (1999); and J Atheroscler Thromb 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (bAEC), which are an example of endothelial cells which line blood vessels and are involved</p>	<p>growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An</p>
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				<p>in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under</p>
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					<p>“Cardiovascular Disorders”). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization.</p> <p>Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders.</p> <p>Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma,</p>
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					<p>haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, restenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also</p>
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					include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment /prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune
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					Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.
HTAEE28	818	Insulin Secretion	Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies.	A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below).	

				<p>Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Shimizu, H., et al., Endocr J, 47(3):261-9 (2000); Salapatek, A.M., et al., Mol Endocrinol, 13(8):1305-17 (1999); Filipsson, K., et al., Ann N Y Acad Sci, 865:441-4 (1998); Olson, L.K., et al., J Biol Chem, 271(28):16544-52 (1996); and, Miraglia S et. al., Journal of Biomolecular Screening, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays</p>	<p>diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal</p>
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				<p>antagonists of the invention) to regulate viability and proliferation of pancreatic beta cells. For example, the Cell Titer-Glo luminescent cell viability assay measures the number of viable cells in culture based on quantitation of the ATP present which signals the presence of metabolically active cells. Exemplary assays that may be used or routinely modified to test regulation of viability and proliferation of pancreatic beta cells by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Friedrichsen BN, et al., Mol Endocrinol, 15(1):136-48 (2001); Huotari MA, et al., Endocrinology, 139(4):1494-9 (1998); Hugl SR, et al., J Biol Chem 1998 Jul 10;273(28):17771-9 (1998), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays</p>	<p>nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and</p>
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				are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. Endocrinology 1992 130:167.	disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.
	HTECC05	819	ICAM in OE19		
	HTECC05	819	SEAP in UMR-106		
	HTEEB42	820	Regulation of transcription of Malic Enzyme in hepatocytes	Assays for the regulation of transcription of Malic Enzyme are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate transcription of Malic Enzyme, a key enzyme in lipogenesis. Malic enzyme is involved in	A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below),

				<p>lipogenesis and its expression is stimulated by insulin. ME promoter contains two direct repeat (DR1)-like elements MEp and MEd identified as putative PPAR response elements. ME promoter may also respond to AP1 and other transcription factors. Exemplary assays that may be used or routinely modified to test for regulation of transcription of Malic Enzyme (in hepatocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Streeter, R.S., et al., Mol Endocrinol, 12(11):1778-91 (1998); Garcia-Jimenez, C., et al., Mol Endocrinol, 8(10):1361-9 (1994); Barroso, I., et al., J Biol Chem, 274(25):17997-8004 (1999); Ijpenberg, A., et al., J Biol Chem, 272(32):20108-20117 (1997); Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol.</p>	<p>diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypermolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal</p>
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				<p>216:362–368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Hepatocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary hepatocytes that may be used according to these assays includes the mouse 3T3-L1 cell line. 3T3-L1 is a mouse preadipocyte cell line (adherent). It is a continuous substrain of 3T3 fibroblasts developed through clonal isolation. Cells undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation culture conditions.</p>	<p>tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
	HTEFU65	821	<p>Activation of transcription through cAMP response element (CRE) in pre-adipocytes.</p>	<p>Assays for the activation of transcription through the cAMP response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the</p>	<p>A highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. An additional highly preferred indication is diabetes mellitus. An additional highly preferred</p>



				<p>invention) to increase cAMP, regulate CREB transcription factors, and modulate expression of genes involved in a wide variety of cell functions. For example, a 3T3-L1/CRE reporter assay may be used to identify factors that activate the cAMP signaling pathway. CREB plays a major role in adipogenesis, and is involved in differentiation into adipocytes. CRE contains the binding sequence for the transcription factor CREB (CRE binding protein). Exemplary assays for transcription through the cAMP response element that may be used or routinely modified to test cAMP-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn</p>	<p>indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below),</p>
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				<p>et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Reusch et al., Mol Cell Biol 20(3):1008-1020 (2000); and Klemm et al., J Biol Chem 273:917-923 (1998), the contents of each of which are herein incorporated by reference in its entirety. Pre-adipocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). Additional highly preferred indications are complications associated with insulin resistance.</p>
				<p>Assays for the regulation of transcription of Malic Enzyme are well-known in the art and may be used or routinely</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication</p>
				<p>Regulation of transcription of Malic Enzyme in hepatocytes</p>	
				<p>821</p>	
				<p>HTEFU65</p>	

				<p>modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate transcription of Malic Enzyme, a key enzyme in lipogenesis. Malic enzyme is involved in lipogenesis and its expression is stimulated by insulin. ME promoter contains two direct repeat (DR1)-like elements MEp and MEEd identified as putative PPAR response elements. ME promoter may also responds to AP1 and other transcription factors. Exemplary assays that may be used or routinely modified to test for regulation of transcription of Malic Enzyme (in hepatocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Streeper, R.S., et al., Mol Endocrinol, 12(11):1778-91 (1998); Garcia-Jimenez, C., et al., Mol Endocrinol, 8(10):1361-9</p>	<p>associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment</p>
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				<p>(1994); Barroso, I., et al., J Biol Chem, 274(25):17997-8004 (1999); Ijpenberg, A., et al., J Biol Chem, 272(32):20108-20117 (1997); Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol. 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Hepatocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary hepatocytes that may be used according to these assays includes the mouse 3T3-L1 cell line. 3T3-L1 is a mouse preadipocyte cell line (adherent). It is a continuous substrain of 3T3 fibroblasts developed through clonal isolation. Cells undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation culture conditions.</p>	<p>(e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
	HTEFU65	821	Myoblast cell	Assays for muscle cell	Highly preferred indications

			proliferation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate or inhibit myoblast cell proliferation. Exemplary assays for myoblast cell proliferation that may be used or routinely modified to test activity of polypeptides and antibodies of the invention (including agonists or antagonists of the invention) include, for example, assays disclosed in: Soeta, C., et al. "Possible role for the c-ski gene in the proliferation of myogenic cells in regenerating skeletal muscles of rats" Dev Growth Differ Apr;43(2):155-64 (2001); Ewton DZ, et al., "IGF binding proteins-4, -5 and -6 may play specialized roles during L6 myoblast proliferation and differentiation" J Endocrinol Mar;144(3):539-53 (1995); and, Pampusch MS, et	include diabetes, myopathy, muscle cell atrophy, cancers of muscle (such as, rhabdomyoma, and rhabdosarcoma), cardiovascular disorders (such as congestive heart failure, cachexia, myxomas, fibromas, congenital cardiovascular abnormalities, heart disease, cardiac arrest, heart valve disease, vascular disease, and also as described below under "Cardiovascular Disorders"), stimulating myoblast proliferation, and inhibiting myoblast proliferation.
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				al., "Effect of transforming growth factor beta on proliferation of L6 and embryonic porcine myogenic cells" J Cell Physiol Jun;143(3):524-8 (1990); the contents of each of which are herein incorporated by reference in their entirety. Exemplary myoblast cells that may be used according to these assays include the rat myoblast L6 cell line. Rat myoblast L6 cells are an adherent rat myoblast cell line, isolated from primary cultures of rat thigh muscle, that fuse to form multinucleated myotubes and striated fibers after culture in differentiation media.	
	HTEFU65	821	Inhibition of squalene synthetase gene transcription.	Reporter Assay: construct contains regulatory and coding sequence of squalene synthetase, the first specific enzyme in the cholesterol biosynthetic pathway. See Jiang, et al., J. Biol. Chem. 268:12818-12824(1993), the contents of which are herein incorporated by reference in its entirety. Cells were treated	

				with SID supernatants, and SEAP activity was measured after 72 hours. HepG2 is a human hepatocellular carcinoma cell line (ATCC HB-8065). See Knowles et al., Science. 209:497-9 (1980), the contents of which are herein incorporated by reference in its entirety.	
HTEFU65	821	Production of IFNgamma using a T cells	IFNgamma FMA.T. IFNγ plays a central role in the immune system and is considered to be a proinflammatory cytokine. IFNγ promotes TH1 and inhibits TH2 differentiation; promotes IgG2a and inhibits IgE secretion; induces macrophage activation; and increases MHC expression. Assays for immunomodulatory proteins produced by T cells and NK cells that regulate a variety of inflammatory activities and inhibit TH2 helper cell functions are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and	A highly preferred embodiment of the invention includes a method for stimulating the production of IFNγ. An alternative highly preferred embodiment of the invention includes a method for inhibiting the production of IFNγ. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or as	

				<p>agonists or antagonists of the invention) to mediate immunomodulation, regulate inflammatory activities, modulate TH2 helper cell function, and/or mediate humoral or cell-mediated immunity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as Interferon gamma (IFNg), and the activation of T cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Gonzalez et al., J Clin Lab Anal 8(5):225-233 (1995); Billiau et al., Ann NY Acad Sci 856:22-32 (1998); Boehm et al., Annu Rev Immunol</p>	<p>described below under "Infectious Disease"). Highly preferred indications include autoimmune disease (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiency (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. Additional preferred indications include idiopathic pulmonary fibrosis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic,</p>
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				<p>15:749-795 (1997), and Rheumatology (Oxford) 38(3):214-20 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human T cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human T cells are primary human lymphocytes that mature in the thymus and express a T Cell receptor and CD3, CD4, or CD8. These cells mediate humoral or cell-mediated immunity and may be preactivated to enhance responsiveness to immunomodulatory factors.</p>	<p>esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
	HTEFU65	821	Stimulation of insulin secretion from pancreatic beta cells.	<p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g.,</p>

			<p>the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., Am J Physiol, 277(4 Pt 2):R959-66 (1999); Li, M., et al., Endocrinology, 138(9):3735-40 (1997); Kim, K.H., et al., FEBS Lett, 377(2):237-9 (1995); and, Miraglia S et. al., Journal of Biomolecular Screening,</p>	<p>diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and</p>
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			<p>4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. Endocrinology 1992 130:167.</p>	<p>blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
	HTEGA76	822	<p>Activation of Adipocyte ERK Signaling Pathway</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting</p>

			<p>of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., Biol Chem 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y, Exp Clin Endocrinol Diabetes 107(2):126-132 (1999); Kyriakis JM, Biochem Soc Symp 64:29-48 (1999); Chang and Karin, Nature 410(6824):37-40 (2001); and Cobb MH, Prog Biophys Mol Biol 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these</p>	<p>adipocyte proliferation. A highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte differentiation. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred</p>
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				<p>assays are publicly available (e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>indications include blood disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve</p>
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					<p>disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin). An additional highly preferred</p>
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					<p>indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p> <p>Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein.</p> <p>Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic,</p>
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				esophageal, stomach, brain, liver, and urinary cancer. Highly preferred indications include lipomas and liposarcomas. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.
HTEGA76	822	Endothelial Cell Apoptosis	Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Induction of apoptosis in endothelial cells supporting the vasculature of tumors is associated with tumor regression due to loss of tumor blood supply. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention	<p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of</p>



				<p>(including antibodies and agonists or antagonists of the invention) include the assays disclosed in Lee et al., FEBS Lett 485(2-3): 122-126 (2000); Nor et al., J Vasc Res 37(3): 209-218 (2000); and Karsan and Harlan, J Atheroscler Thromb 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety.</p> <p>Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (bAEC), which are an example of endothelial cells which line blood vessels and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis,</p>
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					<p>cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under "Cardiovascular Disorders").</p> <p>Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization.</p> <p>Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's</p>
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					<p>sarcoma, and retinal disorders. Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's</p>
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					phenomenon, aneurysms, restenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment
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				<p>proteins produced by activated dendritic cells that upregulate monocyte/macrophage and T cell chemotaxis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate chemotaxis, and modulate T cell differentiation. Exemplary assays that test for immunomodulatory proteins evaluate the production of chemokines, such as macrophage inflammatory protein 1 alpha (MIP-1a), and the activation of monocytes/macrophages and T cells. Such assays that may be used or routinely modified to test immunomodulatory and chemotaxis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J</p>	<p>includes a method for stimulating MIP 1a production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MIP 1a production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia,</p>
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				<p>Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremin, J R Coll Surg Ednb 45(1):9-19 (2001); Drakes et al., Transp Immunol 8(1):17-29 (2000); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma, and allergy. Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for</p>
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					example, hyperplasia, metaplasia, and/or dysplasia.
HTELM16	823	Inhibition of squalene synthetase gene transcription.	Reporter Assay: construct contains regulatory and coding sequence of squalene synthetase, the first specific enzyme in the cholesterol biosynthetic pathway. See Jiang, et al., J. Biol. Chem. 268:12818-12824(1993), the contents of which are herein incorporated by reference in its entirety. Cells were treated with SID supernatants, and SEAP activity was measured after 72 hours. HepG2 is a human hepatocellular carcinoma cell line (ATCC HB-8065). See Knowles et al., Science. 209:497-9 (1980), the contents of which are herein incorporated by reference in its entirety.		
HTELM16	823	TNF $\alpha$ in Human T-cell 2B9			
HTELM16	823	Activation of transcription through serum response element in immune cells (such as T-cells).	Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess	A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment	



				<p>the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. Human T cells that may be</p>	<p>of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases</p>
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				<p>used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the JURKAT cell line, which is a suspension culture of leukemia cells that produce IL-2 when stimulated.</p>	<p>(e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune</p>
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					reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
	HTELP17	824	Regulation of transcription through the PEPCK promoter in hepatocytes	Assays for the regulation of transcription through the PEPCK promoter are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to activate the PEPCK promoter in a reporter construct and regulate liver gluconeogenesis. Exemplary assays for regulation of transcription through the PEPCK promoter that may be used or routinely modified to test for PEPCK promoter activity (in hepatocytes) of polypeptides of the invention	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental</p>

				<p>(including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Lochhead et al., Diabetes 49(6):896-903 (2000); and Yeagley et al., J Biol Chem 275(23):17814-17820 (2000), the contents of each of which is herein incorporated by reference in its entirety. . . .</p> <p>Hepatocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary liver hepatoma cells that may be used according to these assays include H4Ile cells, which contain a tyrosine amino transferase that is inducible with glucocorticoids, insulin, or cAMP derivatives.</p>	<p>confusion, drowsiness, nonketotic hyperglycemic-hypermolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., an infectious diseases or disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively,</p>
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					<p>weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p> <p>Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein.</p> <p>Additional highly preferred indications include glycogen storage disease (e.g., glycogenoses), hepatitis, gallstones, cirrhosis of the liver, degenerative or necrotic liver disease, alcoholic liver diseases, fibrosis, liver regeneration, metabolic disease, dyslipidemia and cholesterol metabolism, and hepatocarcinomas.</p> <p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), infection</p>
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			pancreatic beta cells.	<p>and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. For example, the FLPR assay may be used to measure influx of calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Satin LS, et al., Endocrinology, 136(10):4589-601 (1995); Mogami H, et al., Endocrinology, 136(7):2960-6 (1995); Richardson SB, et al., Biochem J, 288 ( Pt 3):847-51</p>	<p>An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine</p>
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				<p>(1992); and, Meats, JE, et al., Cell Calcium 1989 Nov-Dec;10(8):535-41 (1989), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p>	<p>Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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			IL-4 in HMC		
HTELP17	824		Regulation of transcription through the PEPCK promoter in hepatocytes	Assays for the regulation of transcription through the PEPCK promoter are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to activate the PEPCK promoter in a reporter construct and regulate liver gluconeogenesis. Exemplary assays for regulation of transcription through the PEPCK promoter that may be used or routinely modified to test for PEPCK promoter activity (in hepatocytes) of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Lochhead et al., Diabetes	A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyposmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders"
HTELS08	825				

				<p>49(6):896-903 (2000); and Yeagley et al., J Biol Chem 275(23):17814-17820 (2000), the contents of each of which is herein incorporated by reference in its entirety. Hepatocyte cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary liver hepatoma cells that may be used according to these assays include H4Ile cells, which contain a tyrosine amino transferase that is inducible with glucocorticoids, insulin, or cAMP derivatives.</p>	<p>section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., an infectious diseases or disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance. Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein.</p>
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					<p>Additional highly preferred indications include glycogen storage disease (e.g., glycogenoses), hepatitis, gallstones, cirrhosis of the liver, degenerative or necrotic liver disease, alcoholic liver diseases, fibrosis, liver regeneration, metabolic disease, dyslipidemia and cholesterol metabolism, and hepatocarcinomas.</p> <p>Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), infection (e.g., an infectious disease and/or disorder as described below under "Infectious Disease"), endocrine disorders (e.g., as described below under "Endocrine Disorders"), and neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases").</p>
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				SEAP activity was measured after 72 hours. HepG2 is a human hepatocellular carcinoma cell line (ATCC HB-8065). See Knowles et al., Science. 209:497-9 (1980), the contents of which are herein incorporated by reference in its entirety.	
	HTELS08	825	IL-6 in HUVEC		
	HTEPG70	826	SEAP in 293/ISRE		
	HTEPG70	826	Activation of transcription through cAMP response element (CRE) in pre-adipocytes.	Assays for the activation of transcription through the cAMP response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to increase cAMP, regulate CREB transcription factors, and modulate expression of genes involved in a wide variety of cell functions. For example, a 3T3-L1/CRE reporter assay may be used to identify factors that activate the cAMP signaling pathway. CREB plays a major role in	A highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. An additional highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage

				<p>adipogenesis, and is involved in differentiation into adipocytes. CRE contains the binding sequence for the transcription factor CREB (CRE binding protein). Exemplary assays for transcription through the cAMP response element that may be used or routinely modified to test cAMP-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Reusch et al., Mol Cell Biol 20(3):1008-1020 (2000); and Klemm et al., J Biol Chem 273:917-923 (1998), the contents of each of which are herein incorporated by reference in its entirety. Pre-adipocytes that may be used according to these assays are</p>	<p>(e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture).</p>
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				<p>publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>Additional highly preferred indications are complications associated with insulin resistance.</p>
	HTEPG70	826	<p>Activation of transcription through serum response element in pre-adipocytes.</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the</p>	<p>A highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. An additional highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other</p>

				<p>SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. Pre-adipocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed</p>	<p>diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypermolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the</p>
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				through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.	"Infectious Diseases" section below). Additional highly preferred indications are complications associated with insulin resistance.
	HTEPG70	826	SEAP in HIB/CRE		
	HTEPG70	826	Activation of transcription through GATA-3 response element in immune cells (such as mast cells).	<p>This reporter assay measures activation of the GATA-3 signaling pathway in HMC-1 human mast cell line.</p> <p>Activation of GATA-3 in mast cells has been linked to cytokine and chemokine production. Assays for the activation of transcription through the GATA3 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate GATA3 transcription factors and modulate expression of mast cell genes important for immune response development. Exemplary assays for transcription through the GATA3 response element that may be used or</p>	<p>Highly preferred indications include allergy, asthma, and rhinitis. Additional preferred indications include infection (e.g., an infectious disease as described below under "Infectious Disease"), and inflammation and inflammatory disorders.</p> <p>Preferred indications also include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders").</p> <p>Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia,</p>

				<p>routinely modified to test GATA3-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Flavell et al., Cold Spring Harb Symp Quant Biol 64:563-571 (1999); Rodriguez-Palmero et al., Eur J Immunol 29(12):3914-3924 (1999); Zheng and Flavell, Cell 89(4):587-596 (1997); and Henderson et al., Mol Cell Biol 14(6):4286-4294 (1994), the contents of each of which are herein incorporated by reference in its entirety. Mast cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human mast cells that may be used according to these assays include the HMC-1 cell line, which is an</p>	<p>lymphoma, melanoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary tract cancers and/or as described below under "Hyperproliferative Disorders"). Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease.</p>
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				immature human mast cell line established from the peripheral blood of a patient with mast cell leukemia, and exhibits many characteristics of immature mast cells.	
	HTEPG70	826	Activation of transcription through NFAT response element in immune cells (such as mast cells).	This reporter assay measures activation of the NFAT signaling pathway in HMC-1 human mast cell line. Activation of NFAT in mast cells has been linked to cytokine and chemokine production. Assays for the activation of transcription through the Nuclear Factor of Activated T cells (NFAT) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFAT transcription factors and modulate expression of genes involved in immunomodulatory functions. Exemplary assays for transcription through the	Highly preferred indications include allergy, asthma, and rhinitis. Additional preferred indications include infection (e.g., an infectious disease as described below under "Infectious Disease"), and inflammation and inflammatory disorders. Preferred indications also include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia,

				<p>NFAT response element that may be used or routinely modified to test NFAT-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); De Boer et al., Int J Biochem Cell Biol 31(10):1221-1236 (1999); Ali et al., J Immunol 165(12):7215-7223 (2000); Hutchinson and McCloskey, J Biol Chem 270(27):16333-16338 (1995), and Turner et al., J Exp Med 188:527-537 (1998), the contents of each of which are herein incorporated by reference in its entirety. Mast cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human mast cells that may be used according to</p>	<p>lymphoma, melanoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary tract cancers and/or as described below under "Hyperproliferative Disorders"). Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease.</p>
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				these assays include the HMC-1 cell line, which is an immature human mast cell line established from the peripheral blood of a patient with mast cell leukemia, and exhibits many characteristics of immature mast cells.	
	HTEPG70	826	Activation of transcription through NFkB response element in immune cells (such as basophils).	<p>This reporter assay measures activation of the NFkB signaling pathway in Ku812 human basophil cell line. Assays for the activation of transcription through the NFkB response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFkB transcription factors and modulate expression of immunomodulatory genes. Exemplary assays for transcription through the NFkB response element that may be used or routinely modified to test NFkB-response element activity of</p>	<p>Highly preferred indication includes allergy, asthma, and rhinitis. Additional highly preferred indications include infection (e.g., an infectious disease as described below under "Infectious Disease"), and inflammation and inflammatory disorders. Preferred indications include immunological and hematopoietic disorders (e.g., as described below under "Immune Activity", and "Blood-Related Disorders"). Preferred indications also include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred</p>

				<p>polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Marone et al, Int Arch Allergy Immunol 114(3):207-17 (1997), the contents of each of which are herein incorporated by reference in its entirety. Basophils that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human basophil cell lines that may be used according to these assays include Ku812, originally established from a patient with chronic myelogenous leukemia. It is an immature prebasophilic cell line that can be induced to differentiate into mature basophils.</p> <p>Assays for the activation of transcription through the</p>	<p>indications also include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancer, such as, for example, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, urinary tract cancers and as described below under "Hyperproliferative Disorders".</p>
HTEPG70	826	Activation of transcription		<p>A preferred embodiment of the invention includes a</p>	

			through serum response element in immune cells (such as natural killer cells).	<p>Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117</p>	<p>method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammatory disorders, and treating joint damage in patients with rheumatoid</p>
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				<p>(1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma,</p>
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					<p>arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
	HTEPG70	826	<p>Activation of transcription through NFKB response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the NFKB response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFKB transcription factors and modulate expression of immunomodulatory genes. Exemplary assays for transcription through the</p>	<p>Highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), and</p>

				<p>NFKB response element that may be used or routinely modified to test NFKB-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Gnes 15(2):105-117 (1997); and Fraser et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.</p>	<p>immunodeficiencies (e.g., as described below). An additional highly preferred indication is infection (e.g., AIDS, and/or an infectious disease as described below under "Infectious Disease"). Highly preferred indications include neoplastic diseases (e.g., melanoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, melanoma, renal cell carcinoma, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia,</p>
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					<p>Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, suppression of immune reactions to transplanted organs, asthma and allergy.</p>
	HTGEP89	827	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"),</p>

				<p>routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid</p>
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					<p>tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious</p>
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					disease as described below under "Infectious Disease").
					A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications
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				<p>85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia,</p>
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					<p>Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>



			<p>invention) to regulate STAT6 transcription factors and modulate the expression of multiple genes. Exemplary assays for transcription through the STAT6 response element that may be used or routinely modified to test STAT6 response element activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Georas et al., Blood 92(12):4529-4538 (1998); Moffatt et al., Transplantation 69(7):1521-1523 (2000); Curiel et al., Eur J Immunol 27(8):1982-1987 (1997); and Masuda et al., J Biol Chem 275(38):29331-29337 (2000), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be</p>	<p>"Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include</p>
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				<p>used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4 responsive T cells.</p>	<p>anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
	HTHDS25	829	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred</p>

				<p>regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2</p>	<p>indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally,</p>
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				<p>dependent suspension culture of T cells with cytotoxic activity.</p>	<p>highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation,</p>
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					diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
HTHDS25	829		Inhibition of squalene synthetase gene transcription.	Reporter Assay: construct contains regulatory and coding sequence of squalene synthetase, the first specific enzyme in the cholesterol biosynthetic pathway. See Jiang, et al., J. Biol. Chem. 268:12818-12824(1993), the contents of which are herein incorporated by reference in its entirety. Cells were treated with SID supernatants, and SEAP activity was measured after 72 hours. HepG2 is a human hepatocellular carcinoma cell line (ATCC HB-8065). See Knowles et al., Science. 209:497-9 (1980), the contents of which are herein incorporated by reference in its entirety.	
HTHDS25	829		IFNg in Human T-cell 2B9		

HTLEP53	830	Endothelial Cell Apoptosis	<p>Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Induction of apoptosis in endothelial cells supporting the vasculature of tumors is associated with tumor regression due to loss of tumor blood supply. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Lee et al., FEBS Lett 485(2-3): 122-126 (2000); Nor et al., J Vasc Res 37(3): 209-218 (2000); and Karsan and Harlan, J Atheroscler Thromb 3(2): 75-80 (1996); the contents of each of which</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An</p>
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				<p>are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (bAEC), which are an example of endothelial cells which line blood vessels and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under</p>
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					<p>“Cardiovascular Disorders”). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization.</p> <p>Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders.</p> <p>Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma,</p>
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					<p>haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud"s disease and Reynaud"s phenomenon, aneurysms, restenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also</p>
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					<p>include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment /prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under</p>
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					<p>"Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p>
					<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the</p>
					<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>
					<p>830</p>
					<p>HTLEP53</p>
					<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described</p>

				<p>expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic</p>	<p>below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and</p>
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					activity.	<p>cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease,</p>
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					cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
HTLEP53	830	Insulin Secretion	Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies	A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis,	

			<p>and agonists or antagonists of the invention) include assays disclosed in: Shimizu, H., et al., Endocr J, 47(3):261-9 (2000); Salapatek, A.M., et al., Mol Endocrinol, 13(8):1305-17 (1999); Filipsson, K., et al., Ann N Y Acad Sci, 865:441-4 (1998); Olson, L.K., et al., J Biol Chem, 271(28):16544-52 (1996); and, Miraglia S et. al., Journal of Biomolecular Screening, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety.</p> <p>Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The</p>	<p>microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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				cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.	
HTLEP53	830	Activation of transcription through GATA-3 response element in immune cells (such as mast cells).	This reporter assay measures activation of the GATA-3 signaling pathway in HMC-1 human mast cell line. Activation of GATA-3 in mast cells has been linked to cytokine and chemokine production. Assays for the activation of transcription through the GATA3 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate GATA3 transcription factors and modulate expression of mast cell genes important for immune response	Highly preferred indications include allergy, asthma, and rhinitis. Additional preferred indications include infection (e.g., an infectious disease as described below under "Infectious Disease"), and inflammation and inflammatory disorders. Preferred indications also include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and	



				<p>development. Exemplary assays for transcription through the GATA3 response element that may be used or routinely modified to test GATA3-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Flavell et al., Cold Spring Harb Symp Quant Biol 64:563-571 (1999); Rodriguez-Palmero et al., Eur J Immunol 29(12):3914-3924 (1999); Zheng and Flavell, Cell 89(4):587-596 (1997); and Henderson et al., Mol Cell Biol 14(6):4286-4294 (1994), the contents of each of which are herein incorporated by reference in its entirety. Mast cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary tract cancers and/or as described below under "Hyperproliferative Disorders"). Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted</p>
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			<p>Exemplary human mast cells that may be used according to these assays include the HMC-1 cell line, which is an immature human mast cell line established from the peripheral blood of a patient with mast cell leukemia, and exhibits many characteristics of immature mast cells.</p>	<p>organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease.</p>
HTLEP53	830	<p>Activation of transcription through NFAT response element in immune cells (such as mast cells).</p>	<p>This reporter assay measures activation of the NFAT signaling pathway in HMC-1 human mast cell line. Activation of NFAT in mast cells has been linked to cytokine and chemokine production. Assays for the activation of transcription through the Nuclear Factor of Activated T cells (NFAT) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFAT transcription factors and modulate expression of genes</p>	<p>Highly preferred indications include allergy, asthma, and rhinitis. Additional preferred indications include infection (e.g., an infectious disease as described below under "Infectious Disease"), and inflammation and inflammatory disorders. Preferred indications also include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and</p>

				involved in immunomodulatory functions. Exemplary assays for transcription through the NFAT response element that may be used or routinely modified to test NFAT-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); De Boer et al., Int J Biochem Cell Biol 31(10):1221-1236 (1999); Ali et al., J Immunol 165(12):7215-7223 (2000); Hutchinson and McCloskey, J Biol Chem 270(27):16333-16338 (1995), and Turner et al., J Exp Med 188:527-537 (1998), the contents of each of which are herein incorporated by reference in its entirety. Mast cells that may be used according to these assays are	immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary tract cancers and/or as described below under "Hyperproliferative Disorders"). Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted
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				publicly available (e.g., through the ATCC). Exemplary human mast cells that may be used according to these assays include the HMC-1 cell line, which is an immature human mast cell line established from the peripheral blood of a patient with mast cell leukemia, and exhibits many characteristics of immature mast cells.	organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease.
HTLEP53	830	SEAP in Jurkat/IL4 promoter (antiCD3 co-stim)	Activation of transcription through serum response element in immune cells (such as T-cells).	Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or	A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"),
HTLGE31	831				

				<p>routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid</p>
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tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious					
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				disease as described below under "Infectious Disease").
HTLHY14	832	MIP-1a in HMC	Assays for measuring calcium flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux in immune cells (such as monocytes) include assays disclosed in: Chan, CC, et al., J Pharmacol Exp Ther, 269(3):891-896 (1994); Andersson, K, et al., Cytokine, 12(12):1784-1787 (2000); Scully, SP, et al., J Clin Invest,	Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Infection, Inflammation, Atherosclerosis, Hypersensitivity, and Leukemias
HTLHY14	832	Calcium flux in immune cells (such as monocytes)		

				<p>74(2) 589-599 (1984); and, Sullivan, E, et al., Methods Mol Biol, 114:125-133 (1999), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include the THP-1 monocyte cell line.</p>	
	HTLV19	833	SEAP in HIB/CRE	<p>Assays for the activation of transcription through the Nuclear Factor of Activated T cells (NFAT) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFAT transcription factors and modulate expression of genes involved in immunomodulatory functions.</p>	Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune
	HTLV19	833	<p>Activation of transcription through NFAT response element in immune cells (such as natural killer cells).</p>		



				<p>Exemplary assays for transcription through the NFAT response element that may be used or routinely modified to test NFAT-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Aramburu et al., J Exp Med 182(3):801-810 (1995); De Boer et al., Int J Biochem Cell Biol 31(10):1221-1236 (1999); Fraser et al., Eur J Immunol 29(3):838-844 (1999); and Yeseen et al., J Biol Chem 268(19):14285-14293 (1993), the contents of each of which are herein incorporated by reference in its entirety. NK cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders. An additional highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia,</p>
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				<p>Exemplary human NK cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
	HTLV19	833	<p>Activation of transcription through serum response element in immune cells (such as natural killer cells).</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or</p>

				<p>genes in many cell types. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>"Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g.,</p>
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					<p>malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication</p>
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					is infection (e.g., an infectious disease as described below under "Infectious Disease").
HTLIV19	833	SEAP in NK16/STAT6			
HTOAK16	834	IL-13 in Human T cells			
HTOAK16	834	Production of ICAM in endothelial cells (such as human umbilical vein endothelial cells (HUVEC))	Endothelial cells, which are cells that line blood vessels, and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation. Exemplary endothelial cells that may be used in ICAM production assays include human umbilical vein endothelial cells (HUVEC), and are available from commercial sources. The expression of ICAM (CD54), a integral membrane protein, can be upregulated by cytokines or other factors, and ICAM expression is important in mediating immune and endothelial cell interactions leading to immune and inflammatory responses. Assays for measuring	Highly preferred indications include inflammation (acute and chronic), restnosis, atherosclerosis, asthma and allergy. Highly preferred indications include inflammation and inflammatory disorders, immunological disorders, neoplastic disorders (e.g. cancer/tumorigenesis), and cardiovascular disorders (such as described below under "Immune Activity", "Blood-Related Disorders", "Hyperproliferative Disorders" and/or "Cardiovascular Disorders"). Highly preferred indications include neoplasms and cancers such as, for example, leukemia, lymphoma, melanoma, renal cell carcinoma, and prostate, breast, lung, colon, pancreatic,	

				<p>expression of ICAM-1 are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Rolfe BE, et al., <i>Atherosclerosis</i>, 149(1):99-110 (2000); Panettieri RA Jr, et al., <i>J Immunol</i>, 154(5):2358-2365 (1995); and, Grunstein MM, et al., <i>Am J Physiol Lung Cell Mol Physiol</i>, 278(6):L1154-L1163 (2000), the contents of each of which is herein incorporated by reference in its entirety.</p>	<p>esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p>
	HTOAK16	834	<p>Production of IL-8 by endothelial cells (such as Human Umbilical Cord Endothelial Cells).</p>	<p>Assays measuring production of IL-8 are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to</p>	<p>Highly preferred indications include immunological and inflammatory disorders (e.g., such as allergy, asthma, leukemia, etc. and as described below under "Immune Activity", and "Blood-Related Disorders"). Highly preferred</p>

				regulate production and/or secretion of IL-8. For example, FMAT may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate production and/or secretion of IL-8 from endothelial cells (such as human umbilical vein endothelial cells (HUVEC)). HUVECs are endothelial cells which line venous blood vessels, and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation. Endothelial cells play a pivotal role in the initiation and perpetuation of inflammation and secretion of IL-8 may play an important role in recruitment and activation of immune cells such as neutrophils, macrophages, and lymphocytes.	indications also include autoimmune disorders (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), neoplastic disorders (e.g., organ cancers such as lung, liver, colon cancer, and/or as described below under "Hyperproliferative Disorders"), and cardiovascular disorders (e.g. such as described below under "Cardiovascular Disorders"). Preferred indications include thrombosis, bacteremia and sepsis syndrome and consequent complications (such as acute respiratory distress syndrome and systemic ischemia-reperfusion resulting from septic shock), restenosis and atherosclerosis.
HTOAK16	834	MCP-1 in HUVEC			

HTOAK16	834	Production of VCAM in endothelial cells (such as human umbilical vein endothelial cells (HUVEC))	Assays for measuring expression of VCAM are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate VCAM expression. For example, FRET may be used to measure the upregulation of cell surface VCAM-1 expression in endothelial cells. Endothelial cells are cells that line blood vessels, and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation. Exemplary endothelial cells that may be used according to these assays include human umbilical vein endothelial cells (HUVEC), which are available from commercial sources. The expression of VCAM (CD106), a membrane-associated protein, can be upregulated by cytokines or	Highly preferred indications include inflammation (acute and chronic), restenosis, atherosclerosis, asthma and allergy. Highly preferred indications include inflammation and inflammatory disorders, immunological disorders, neoplastic disorders (e.g. cancer/tumorigenesis), and cardiovascular disorders (such as described below under "Immune Activity", "Blood-Related Disorders", "Hyperproliferative Disorders" and/or "Cardiovascular Disorders"). Highly preferred indications include neoplasms and cancers such as, for example, leukemia, lymphoma, melanoma, renal cell carcinoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia,
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				other factors, and contributes to the extravasation of lymphocytes, leucocytes and other immune cells from blood vessels; thus VCAM expression plays a role in promoting immune and inflammatory responses.	metaplasia, and/or dysplasia.
	HTOGR42	835	Activation of transcription through serum response element in immune cells (such as T-cells).	Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10	A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies

				<p>(1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>(e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic</p>
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					conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
	HTOGR42	835	IL-10 in Human T-cell 293T		
	HTOGR42	835	IL-10 in Human T-cell 2B9		
	HTOGR42	835	Activation of	Kinase assay. JNK kinase	A highly preferred

			Endothelial Cell JNK Signaling Pathway.	assays for signal transduction that regulate cell proliferation, activation, or apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and apoptosis. Exemplary assays for JNK kinase activity that may be used or routinely modified to test JNK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., Biol Chem 379(8-9):1101-1110 (1998); Gupta et al., Exp Cell Res 247(2): 495-504 (1999); Kyriakis JM, Biochem Soc Symp 64:29-48 (1999); Chang and Karin, Nature 410(6824):37-40 (2001); and Cobb MH, Prog Biophys Mol Biol 71(3-4):479-500 (1999); the contents of each of which	embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell activation. An alternative highly preferred
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				<p>are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary endothelial cells that may be used according to these assays include human umbilical vein endothelial cells (HUVEC), which are endothelial cells which line venous blood vessels, and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>embodiment of the invention includes a method for inhibiting the activation of and/or inactivating endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular</p>
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					<p>dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under “Cardiovascular Disorders”).</p> <p>Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization.</p> <p>Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders.</p> <p>Highly preferred indications</p>
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					<p>include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, restenosis; venous and</p>
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					<p>lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment /prevention of endometriosis and related conditions.</p>
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					<p>Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease.</p> <p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders").</p> <p>Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p>
HTOGR42	835	Activation of Natural Killer Cell ERK Signaling Pathway.	Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell		<p>A highly preferred embodiment of the invention includes a method for stimulating natural killer cell</p>

			proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., Biol Chem 379(8-9):1101-1110 (1998); Kyriakis JM, Biochem Soc Symp 64:29-48 (1999); Chang and Karin, Nature 410(6824):37-40 (2001); and Cobb MH, Prog Biophys Mol Biol 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Natural killer cells that may be used according to	proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting natural killer cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating natural killer cell differentiation. An alternative highly preferred embodiment of the invention includes a method for inhibiting natural killer cell differentiation. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity") and infections (e.g., as described below under "Infectious Disease"). Preferred indications include blood disorders (e.g., as described
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				<p>these assays are publicly available (e.g., through the ATCC). Exemplary natural killer cells that may be used according to these assays include the human natural killer cell lines (for example, NK-YT cells which have cytolytic and cytotoxic activity) or primary NK cells.</p>	<p>below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include cancers such as, kidney, melanoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, urinary cancer, lymphoma and leukemias. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Other highly preferred indications include, pancytopenia, leukopenia,</p>
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					leukemias, Hodgkin's disease, acute lymphocytic anemia (ALL), arthritis, asthma, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, immune reactions to transplanted organs and tissues, endocarditis, meningitis, Lyme Disease, and allergies.
	HTOGR42	835	VEGF in SW480		
	HTOHT18	836	Activation of transcription through serum response element in immune cells (such as T-cells).	Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or	A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus,

				<p>antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other</p>
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					<p>preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
	HTOHT18	836	Production of TNF alpha by dendritic	TNFα FMA T. Assays for immunomodulatory proteins	A highly preferred embodiment of the invention

			cells	<p>produced by activated macrophages, T cells, fibroblasts, smooth muscle, and other cell types that exert a wide variety of inflammatory and cytotoxic effects on a variety of cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate inflammation and cytotoxicity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines such as tumor necrosis factor alpha (TNFa), and the induction or inhibition of an inflammatory or cytotoxic response. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays</p>	<p>includes a method for inhibiting (e.g., decreasing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid</p>
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				<p>disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Verhasselt et al., Eur J Immunol 28(11):3886-3890 (1998); Dahlen et al., J Immunol 160(7):3585-3593 (1998); Verhasselt et al., J Immunol 158:2919-2925 (1997); and Nardelli et al., J Leukoc Biol 65:822-828 (1999), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous</p>
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					disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
HTOIZ02	837	Endothelial Cell Apoptosis	Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Induction of apoptosis in endothelial cells supporting the vasculature of tumors is associated with tumor regression due to loss of tumor blood supply. Exemplary	A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting	

			<p>assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Lee et al., FEBS Lett 485(2-3): 122-126 (2000); Nor et al., J Vasc Res 37(3): 209-218 (2000); and Karsan and Harlan, J Atheroscler Thromb 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (bAEC), which are an example of endothelial cells which line blood vessels and are involved in functions that include, but are not limited to, angiogenesis, vascular</p>	<p>endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative</p>
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				permeability, vascular tone, and immune cell extravasation.	Disorders”), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under “Cardiovascular Disorders”). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or
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					<p>cardiovascularization.</p> <p>Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders.</p> <p>Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma, haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.</p> <p>Highly preferred indications also include arterial disease,</p>
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					<p>such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud"s disease and Reynaud"s phenomenon, aneurysms, restenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic</p>
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					<p>and coagulative disorders, vascularitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment /prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease.</p> <p>Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders").</p> <p>Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g.,</p>
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					inflammatory bowel disease and Crohn's disease), and pain management.
HTOIZ02	837	Production of IL-6	IL-6 FMA T. IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and	A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as	

				<p>differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhasselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using</p>	<p>described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and</p>
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				<p>the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases</p>
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				<p>Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>(e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis,</p>
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				<p>suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
HTPCS72	839	Stimulation of Calcium Flux in pancreatic beta cells.	<p>Assays for measuring calcium flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. For example, the FLPR assay may be used to measure influx of calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to activation of calcium responsive signaling pathways</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel</p>

				<p>and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Satin LS, et al., Endocrinology, 136(10):4589-601 (1995); Mogami H, et al., Endocrinology, 136(7):2960-6 (1995); Richardson SB, et al., Biochem J, 288 ( Pt 3):847-51 (1992); and, Meats, JE, et al., Cell Calcium 1989 Nov-Dec;10(8):535-41 (1989), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells</p>	<p>blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include</p>
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				transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.	weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.
	HTPCS72	839	TNF $\alpha$ in Human T-cell 2B9		
	HTPIH83	840	Insulin Secretion	Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FRET using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and	A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic

				<p>also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Shimizu, H., et al., Endocr J, 47(3):261-9 (2000); Salapatek, A.M., et al., Mol Endocrinol, 13(8):1305-17 (1999); Filipsson, K., et al., Ann N Y Acad Sci, 865:441-4 (1998); Olson, L.K., et al., J Biol Chem, 271(28):16544-52 (1996); and, Miraglia S et al., Journal of Biomolecular Screening, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated.</p>	<p>neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypermolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred</p>
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				<p>Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.</p>	<p>indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
	HTSEW17	841	<p>Stimulation of insulin secretion from pancreatic beta cells.</p>	<p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMA7 using</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal</p>



				<p>anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., <i>Am J Physiol</i>, 277(4 Pt 2):R959-66 (1999); Li, M., et al., <i>Endocrinology</i>, 138(9):3735-40 (1997); Kim, K.H., et al., <i>FEBS Lett</i>, 377(2):237-9 (1995); and, Miraglia S et. al., <i>Journal of Biomolecular Screening</i>, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available</p>	<p>Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypermolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the</p>
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				<p>(e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. Endocrinology 1992 130:167.</p>	<p>urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
	HTSEW17	841	<p>Activation of transcription through NFKB response element in immune cells (such as B-cells).</p>	<p>Assays for the activation of transcription through the NFKB response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFKB transcription factors and modulate expression of immunomodulatory genes. Exemplary assays for</p>	<p>Preferred embodiments of the invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Cancer, Autoimmunity, Allergy and Asthma</p>

				<p>transcription through the NFKB response element that may be used or routinely modified to test NFKB-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Gri G, et al., Biol Chem, 273(11):6431-6438 (1998); Pyatt DW, et al., Cell Biol Toxicol 2000;16(1):41-51 (2000); Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Valle Blazquez et al, Immunology 90(3):455-460 (1997); Aramburau et al., J Exp Med 82(3):801-810 (1995); and Fraser et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. Immune cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	
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				Exemplary immune cells that may be used according to these assays include the Reh B-cell line.	
	HTTBI76	842	CD69 in Human T cells		
	HTTBI76	842	Stimulation of insulin secretion from pancreatic beta cells.	Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies	A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis,

			<p>and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., Am J Physiol, 277(4 Pt 2):R959-66 (1999); Li, M., et al., Endocrinology, 138(9):3735-40 (1997); Kim, K.H., et al., FEBS Lett, 377(2):237-9 (1995); and, Miraglia S et. al., Journal of Biomolecular Screening, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin</p>	<p>microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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				secretion. References: Asfari et al. Endocrinology 1992 130:167.	
HTTBI76	842	Caspase (+camptothecin) in SW480			
HTTBS64	843	Regulation of transcription of Malic Enzyme in hepatocytes		Assays for the regulation of transcription of Malic Enzyme are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate transcription of Malic Enzyme, a key enzyme in lipogenesis. Malic enzyme is involved in lipogenesis and its expression is stimulated by insulin. ME promoter contains two direct repeat (DR1)-like elements MEp and MEed identified as putative PPAR response elements. ME promoter may also respond to AP1 and other transcription factors. Exemplary assays that may be used or routinely modified to test for regulation of transcription of Malic Enzyme	A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis,

				<p>(in hepatocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Streeter, R.S., et al., Mol Endocrinol, 12(11):1778-91 (1998); Garcia-Jimenez, C., et al., Mol Endocrinol, 8(10):1361-9 (1994); Barroso, I., et al., J Biol Chem, 274(25):17997-8004 (1999); Ijpenberg, A., et al., J Biol Chem, 272(32):20108-20117 (1997); Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol. 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Hepatocytes that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary hepatocytes that may be used according to these assays includes the mouse 3T3-L1 cell line. 3T3-L1 is a</p>	<p>microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
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				mouse preadipocyte cell line (adherent). It is a continuous substrain of 3T3 fibroblasts developed through clonal isolation. Cells undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation culture conditions.	
	HTWDF76	844	Activation of transcription through AP1 response element in immune cells (such as T-cells).	Assays for the activation of transcription through the AP1 response element are known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate growth and other cell functions. Exemplary assays for transcription through the AP1 response element that may be used or routinely modified to test AP1-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1988); Cullen and	Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications



				<p>Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Rellahan et al., J Biol Chem 272(49):30806-30811 (1997); Chang et al., Mol Cell Biol 18(9):4986-4993 (1998); and Fraser et al., Eur J Immunol 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension-culture cell line with cytotoxic activity.</p>	<p>include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease,</p>
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				sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.
HTWDF76	844	Activation of transcription through CD28 response element in immune cells (such as T-cells).	Assays for the activation of transcription through the CD28 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate IL-2 expression in T cells. Exemplary assays for transcription through the CD28 response element that may be used or routinely modified to test CD28-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988);	<p>A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-2 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-2 production.</p>

				<p>McGuire and Iacobelli, J Immunol 159(3):1319-1327 (1997); Parra et al., J Immunol 166(4):2437-2443 (2001); and Butscher et al., J Biol Chem 3(1):552-560 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the JURKAT cell line, which is a suspension culture of leukemia cells that produce IL-2 when stimulated.</p>	<p>Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. An additional highly preferred indication includes infection (e.g., AIDS, and/or as described below under "Infectious Disease"). Highly preferred indications include neoplastic diseases (e.g., melanoma, renal cell carcinoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, melanoma (e.g.,</p>
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					<p>metastatic melanoma), renal cell carcinoma (e.g., metastatic renal cell carcinoma), leukemia, lymphoma (e.g., T cell lymphoma), and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. A highly preferred indication is infection (e.g., tuberculosis, infections associated with granulomatous disease, and osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). A highly preferred indication is AIDS. Additional highly preferred indications include suppression of immune reactions to transplanted organs and/or tissues, uveitis, psoriasis, and tropical spastic paraparesis. Preferred indications include blood disorders (e.g., as</p>
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					described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.
					A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described
					Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the
					Activation of transcription through serum response element in immune cells (such as natural killer cells).
					844
					HTWDF76

				<p>expression of genes involved in growth and upregulate the function of growth-related genes in many cell types. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-YT cell line,</p>	<p>below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and</p>
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				<p>which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease,</p>
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					cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
HTXCV12	845	Activation of transcription through serum response element in immune cells (such as T-cells).	Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-	A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated	



				<p>368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia,</p>
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					metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
	HTXCV12	845	IFNg in Human T-cell 293T		
	HTXCV12	845	Production of RANTES in endothelial cells (such as human umbilical vein	RANTES FMAT. Assays for immunomodulatory proteins that induce chemotaxis of T cells, monocytes, and eosinophils are well known in	

			endothelial cells (HUVEC))	<p>the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, induce chemotaxis, and/or mediate humoral or cell-mediated immunity.</p> <p>Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as RANTES, and the induction of chemotactic responses in immune cells. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204 (1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Cocchi et al., Science 270(5243):1811-1815 (1995);</p>	
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				<p>and Robinson et al., Clin Exp Immunol 101(3):398-407 (1995), the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary endothelial cells that may be used according to these assays include human umbilical vein endothelial cells (HUVEC), which are endothelial cells which line venous blood vessels, and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	
	HTXCV12	845	<p>Activation of transcription through NFKB response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the NFKB response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFKB</p>	<p>Highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications</p>

				<p>transcription factors and modulate expression of immunomodulatory genes. Exemplary assays for transcription through the NFKB response element that may be used or routinely modified to test NFKB-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Gnes 15(2):105-117 (1997); and Fraser et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the MOLT4, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), and immunodeficiencies (e.g., as described below). An additional highly preferred indication is infection (e.g., AIDS, and/or an infectious disease as described below under "Infectious Disease"). Highly preferred indications include neoplastic diseases (e.g., melanoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, melanoma, renal cell carcinoma, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for</p>
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					example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, suppression of immune reactions to transplanted organs, asthma and allergy.
	HTXCV12	845	Caspase (+camptothecin) in SW480		
	HTXFL30	846	Production of TNF alpha by dendritic cells	TNFα FMA T. Assays for immunomodulatory proteins produced by activated macrophages, T cells, fibroblasts, smooth muscle, and other cell types that exert a wide variety of inflammatory and cytotoxic effects on a variety of cells are well known	A highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing)

			<p>in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, modulate inflammation and cytotoxicity. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines such as tumor necrosis factor alpha (TNFa), and the induction or inhibition of an inflammatory or cytotoxic response. Such assays that may be used or routinely modified to test immunomodulatory activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Verhasselt et al., Eur J Immunol 28(11):3886-3890</p>	<p>TNF alpha production. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative</p>
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				<p>(1198); Dahlen et al., J Immunol 160(7):3585-3593</p> <p>(1998); Verhasselt et al., J Immunol 158:2919-2925</p> <p>(1997); and Nardelli et al., J Leukoc Biol 65:822-828</p> <p>(1999), the contents of each of which are herein incorporated by reference in its entirety.</p> <p>Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art.</p> <p>Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation,</p>
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					diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
HTXFL30	846	Inhibition of squalene synthetase gene transcription.	Reporter Assay: construct contains regulatory and coding sequence of squalene synthetase, the first specific enzyme in the cholesterol biosynthetic pathway. See Jiang, et al., J. Biol. Chem. 268:12818-12824(1993), the contents of which are herein incorporated by reference in its entirety. Cells were treated with SID supernatants, and SEAP activity was measured after 72 hours. HepG2 is a human hepatocellular carcinoma cell line (ATCC HB-8065). See Knowles et al., Science. 209:497-9 (1980), the contents of which are herein incorporated by reference in its entirety.		
HTXFL30	846	Regulation of proliferation and/or	Kinase assays, for example an Elk-1 kinase assay for ERK		Preferred embodiments of the invention include using

			differentiation in immune cells (such as mast cells).	<p>signal transduction that regulates cell proliferation or differentiation, are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in: Ali H, et al., J Immunol, 165(12):7215-7223 (2000); Tam SY, et al., Blood, 90(5):1807-1820 (1997); Forrer et al., Biol Chem 379(8-9):1101-1110 (1998); Berra et al., Biochem Pharmacol 60(8):1171-1178 (2000); Gupta et al., Exp Cell Res 247(2):495-504 (1999); Chang and Karin, Nature</p>	<p>polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of asthma, allergy, hypersensitivity and inflammation.</p>
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				<p>410(6824):37-40 (2001); and Cobb MH, Prog Biophys Mol Biol 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Exemplary immune cells that may be used according to these assays include human mast cells such as the HMC-1 cell line.</p>	
	HTXFL30	846	Caspase (+camptothecin) in SW480		
	HTXJM03	847	Regulation of transcription of Malic Enzyme in hepatocytes	<p>Assays for the regulation of transcription of Malic Enzyme are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate transcription of Malic Enzyme, a key enzyme in lipogenesis. Malic enzyme is involved in lipogenesis and its expression is stimulated by insulin. ME promoter contains two direct repeat (DR1)- like elements MEp and ME<sub>d</sub> identified as</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke,</p>

				<p>putative PPAR response elements. ME promoter may also responds to AP1 and other transcription factors.</p> <p>Exemplary assays that may be used or routinely modified to test for regulation of transcription of Malic Enzyme (in hepatocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Streeter, R.S., et al., Mol Endocrinol, 12(11):1778-91 (1998); Garcia-Jimenez, C., et al., Mol Endocrinol, 8(10):1361-9 (1994); Barroso, I., et al., J Biol Chem, 274(25):17997-8004 (1999); Ijpenberg, A., et al., J Biol Chem, 272(32):20108-20117 (1997); Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol. 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety.</p> <p>Hepatocytes that may be used</p>	<p>impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypermolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture).</p> <p>An additional highly preferred indication is obesity and/or complications associated with</p>
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				<p>according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary hepatocytes that may be used according to these assays includes the mouse 3T3-L1 cell line. 3T3-L1 is a mouse preadipocyte cell line (adherent). It is a continuous substrain of 3T3 fibroblasts developed through clonal isolation. Cells undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation culture conditions.</p>	<p>obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
	HTXJM03	847	Glucose Production in H4IIE		
	HTXON32	848	Insulin Secretion	<p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies.</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below),</p>

				<p>Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Shimizu, H., et al., Endocr J, 47(3):261-9 (2000); Salapatek, A.M., et al., Mol Endocrinol, 13(8):1305-17 (1999); Filipsson, K., et al., Ann N Y Acad Sci, 865:441-4 (1998); Olson, L.K., et al., J Biol Chem, 271(28):16544-52 (1996); and, Miraglia S et al., Journal of Biomolecular Screening, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays</p>	<p>diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypermolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal</p>
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				are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include HIT15 Cells. HIT15 are an adherent epithelial cell line established from Syrian hamster islet cells transformed with SV40. These cells express glucagon, somatostatin, and glucocorticoid receptors. The cells secrete insulin, which is stimulated by glucose and glucagon and suppressed by somatostatin or glucocorticoids. ATTC# CRL-1777 Refs: Lord and Ashcroft. Biochem. J. 219: 547-551; Santerre et al. Proc. Natl. Acad. Sci. USA 78: 4339-4343, 1981.	tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.
	HTXON32	848	IgG in Human B cells SAC		
	HTXON32	848	CXCR4 in SW480		
	HUFBY15	849	SEAP in 293/ISRE		
	HUFBY15	849	Activation of T-Cell p38 or JNK Signaling Pathway.	Kinase assay. JNK and p38 kinase assays for signal transduction that regulate cell proliferation, activation, or	Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative

			<p>apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit immune cell (e.g. T-cell) proliferation, activation, and apoptosis. Exemplary assays for JNK and p38 kinase activity that may be used or routinely modified to test JNK and p38 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., Biol Chem 379(8-9):1101-1110 (1998); Gupta et al., Exp Cell Res 247(2): 495-504 (1999); Kyriakis JM, Biochem Soc Symp 64:29-48 (1999); Chang and Karin, Nature 410(6824):37-40 (2001); and Cobb MH, Prog Biophys Mol Biol 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by</p>	<p>Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic,</p>
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				reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension-culture cell line with cytotoxic activity.	esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.
	HUFCJ30	850	IgG in Human B cells		
	HUFCJ30	850	Stimulation of insulin secretion from pancreatic beta cells.	Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including	A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic

			<p>antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and dysregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., Am J Physiol, 277(4 Pt 2):R959-66 (1999); Li, M., et al., Endocrinology, 138(9):3735-40 (1997); Kim, K.H., et al., FEBS Lett, 377(2):237-9 (1995); and, Miraglia S et. al., Journal of Biomolecular Screening, 4:193-204 (1999), the contents</p>	<p>nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypermolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired</p>
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				<p>of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1 cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. Endocrinology 1992 130:167.</p>	<p>wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
	HUKAH51	851	SEAP in 293/ISRE		
	HUKAH51	851	Protection from Endothelial Cell Apoptosis.	<p>Caspase Apoptosis Rescue. Assays for caspase apoptosis rescue are well known in the art and may be used or routinely modified to assess the ability of the polypeptides of the invention (including antibodies and agonists or</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell</p>

				<p>antagonists of the invention) to inhibit caspase protease-mediated apoptosis. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis rescue of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Romeo et al., Cardiovasc Res 45(3): 788-794 (2000); Messmer et al., Br J Pharmacol 127(7): 1633-1640 (1999); and J Atheroscler Thromb 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through commercial sources). Exemplary endothelial cells that may be used according to these assays include bovine aortic endothelial cells (bAEC), which are an example of endothelial cells which line blood vessels and are involved</p>	<p>growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell growth. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating angiogenesis. An</p>
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				<p>in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial infarction, chronic hemodynamic overload, and/or as described below under</p>
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					<p>“Cardiovascular Disorders”). Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization.</p> <p>Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi’s sarcoma, and retinal disorders.</p> <p>Highly preferred indications include neoplasms and cancer, such as, Kaposi’s sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary angiomatosis, hemangioendothelioma, angiosarcoma,</p>
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haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, restenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as peripheral vascular disease, and cancer. Highly preferred indications also					
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					<p>include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment /prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease. Preferred indications include blood disorders (e.g., as described below under "Immune</p>
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					<p>Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.</p>
					<p>Kinase assay. JNK kinase assays for signal transduction that regulate cell proliferation, activation, or apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation,</p>
					<p>Activation of JNK Signaling Pathway in immune cells (such as eosinophils).</p>
					<p>Kinase assay. JNK kinase assays for signal transduction that regulate cell proliferation, activation, or apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation,</p>
					<p>Highly preferred indications include asthma, allergy, hypersensitivity reactions, inflammation, and inflammatory disorders. Additional highly preferred indications include immune and hematopoietic disorders (e.g., as described below under "Immune Activity", and "Blood-Related Disorders"), autoimmune diseases (e.g.,</p>
HUKAH51	851				<p>Kinase assay. JNK kinase assays for signal transduction that regulate cell proliferation, activation, or apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation,</p>

				<p>activation, and apoptosis. Exemplary assays for JNK kinase activity that may be used or routinely modified to test JNK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., Biol Chem 379(8-9):1101-1110 (1998); Gupta et al., Exp Cell Res 247(2): 495-504 (1999); Kyriakis JM, Biochem Soc Symp 64:29-48 (1999); Chang and Karin, Nature 410(6824):37-40 (2001); and Cobb MH, Prog Biophys Mol Biol 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Exemplary cells that may be used according to these assays include eosinophils. Eosinophils are important in the late stage of allergic reactions; they are recruited to tissues and mediate the inflammatory response of late stage allergic reaction.</p>	<p>rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting or inhibiting immune cell proliferation. Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include boosting an eosinophil-mediated immune response, and suppressing an eosinophil-mediated immune response.</p>
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				<p>Moreover, exemplary assays that may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to modulate signal transduction, cell proliferation, activation, or apoptosis in eosinophils include assays disclosed and/or cited in: Zhang JP, et al., "Role of caspases in dexamethasone-induced apoptosis and activation of c-Jun NH2-terminal kinase and p38 mitogen-activated protein kinase in human eosinophils" Clin Exp Immunol; Oct;122(1):20-7 (2000); Hebestreit H, et al., "Disruption of fas receptor signaling by nitric oxide in eosinophils" J Exp Med; Feb 2;187(3):415-25 (1998); J Allergy Clin Immunol 1999 Sep;104(3 Pt 1):565-74; and, Sousa AR, et al., "In vivo resistance to corticosteroids in bronchial asthma is associated with enhanced</p>	
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				phosphorylation of JUN N-terminal kinase and failure of prednisolone to inhibit JUN N-terminal kinase phosphorylation" J Allergy Clin Immunol; Sep;104(3 Pt 1):565-74 (1999); the contents of each of which are herein incorporated by reference in its entirety.	
HUKAH51	851	SEAP in HepG2/Squalen synthetase(stimulation)			
HUKAH51	851	IL-2 in Human T-cell 293T			
HUSXS50	852	Activation of T-Cell p38 or JNK Signaling Pathway.		Kinase assay. JNK and p38 kinase assays for signal transduction that regulate cell proliferation, activation, or apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit immune cell (e.g. T-cell) proliferation, activation, and apoptosis. Exemplary assays for JNK and	Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include autoimmune diseases (e.g.,

			<p>p38 kinase activity that may be used or routinely modified to test JNK and p38 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., Biol Chem 379(8-9):1101-1110 (1998); Gupta et al., Exp Cell Res 247(2): 495-504 (1999); Kyriakis JM, Biochem Soc Symp 64:29-48 (1999); Chang and Karin, Nature 410(6824):37-40 (2001); and Cobb MH, Prog Biophys Mol Biol 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension-culture cell line with cytotoxic</p>	<p>rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS, allergy, anemia, pancytopenia,</p>
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				activity.	leukopenia, thrombocytopenia, Hodgkin"s disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt"s lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.
HUSXS50	852	Activation of transcription through NFKB response element in immune cells (such as EOL1 cells).	Assays for the activation of transcription through the NFKB response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFKB transcription factors and modulate expression of immunomodulatory genes. Exemplary assays for transcription through the NFKB response element that may be used or routinely modified to test NFKB-response element activity of	Highly preferred indications include asthma, allergy, hypersensitivity reactions, and inflammation. Preferred indications include infection (e.g., an infectious disease as described below under "Infectious Disease"), immunological disorders, inflammation and inflammatory disorders (e.g., as described below under "Immune Activity", and "Blood-Related Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described	

				<p>polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Valle Blazquez et al, Immunology 90(3):455-460 (1997); Aramburau et al., J Exp Med 82(3):801-810 (1995); and Fraser et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. For example, a reporter assay (which measures increases in transcription inducible from a NFkB responsive element in EOL-1 cells) may link the NFkB element to a reporter gene and binds to the NFkB transcription factor, which is upregulated by cytokines and other factors. Exemplary immune cells that may be used according to these assays include eosinophils such as the</p>	below) and immunodeficiencies (e.g., as described below).
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				human EOL-1 cell line of eosinophils. Eosinophils are a type of immune cell important in the allergic responses; they are recruited to tissues and mediate the inflammatory response of late stage allergic reaction. Eol-1 is a human eosinophil cell line.	
HUSXS50	852		Inhibition of squalene synthetase gene transcription.	Reporter Assay: construct contains regulatory and coding sequence of squalene synthetase, the first specific enzyme in the cholesterol biosynthetic pathway. See Jiang, et al., J. Biol. Chem. 268:12818-12824(1993), the contents of which are herein incorporated by reference in its entirety. Cells were treated with SID supernatants, and SEAP activity was measured after 72 hours. HepG2 is a human hepatocellular carcinoma cell line (ATCC HB-8065). See Knowles et al., Science. 209:497-9 (1980), the contents of which are herein incorporated by reference in its entirety.	
HUSXS50	852		Calcium flux in	Assays for measuring calcium	Preferred embodiments of the



			immune cells (such as monocytes)	flux are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mobilize calcium. Cells normally have very low concentrations of cytosolic calcium compared to much higher extracellular calcium. Extracellular factors can cause an influx of calcium, leading to activation of calcium responsive signaling pathways and alterations in cell functions. Exemplary assays that may be used or routinely modified to measure calcium flux in immune cells (such as monocytes) include assays disclosed in: Chan, CC, et al., J Pharmacol Exp Ther, 269(3):891-896 (1994); Andersson, K, et al., Cytokine, 12(12):1784-1787 (2000); Scully, SP, et al., J Clin Invest, 74(2) 589-599 (1984); and, Sullivan, E, et al., Methods Mol Biol, 114:125-133 (1999), the contents of each of which	invention include using polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Infection, Inflammation, Atherosclerosis, Hypersensitivity, and Leukemias
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				is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include the THP-1 monocyte cell line.	
	HUVEB53	853	SEAP in HIB/CRE	Caspase Apoptosis. Assays for caspase apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote caspase protease-mediated apoptosis. Apoptosis in pancreatic beta is associated with induction and progression of diabetes. Exemplary assays for caspase apoptosis that may be used or routinely modified to test caspase apoptosis activity of polypeptides of the invention (including antibodies and	A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel
	HUVEB53	853	Regulation of apoptosis in pancreatic beta cells.		

			agonists or antagonists of the invention) include the assays disclosed in: Loweth, AC, et al., FEBS Lett, 400(3):285-8 (1997); Saini, KS, et al., Biochem Mol Biol Int, 39(6):1229-36 (1996); Krautheim, A., et al., Br J Pharmacol, 129(4):687-94 (2000); Chandra J, et al., Diabetes, 50 Suppl 1:S44-7 (2001); Suk K, et al., J Immunol, 166(7):4481-9 (2001); Tejado J, et al., FEBS Lett, 459(2):238-43 (1999); Zhang, S., et al., FEBS Lett, 455(3):315-20 (1999); Lee et al., FEBS Lett 485(2-3): 122-126 (2000); Nor et al., J Vasc Res 37(3): 209-218 (2000); and Karsan and Harlan, J Atheroscler Thromb 3(2): 75-80 (1996); the contents of each of which are herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary	blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with obesity. Additional highly preferred indications include
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				<p>pancreatic cells that may be used according to these assays include RIN-m. RIN-m is a rat adherent pancreatic beta cell insulinoma cell line derived from a radiation induced transplantable rat islet cell tumor. The cells produce and secrete islet polypeptide hormones, and produce insulin, somatostatin, and possibly glucagon. ATTC: #CRL-2057 Chick et al. Proc. Natl. Acad. Sci. 1977 74:628; AF et al. Proc. Natl. Acad. Sci. 1980 77:3519.</p>	<p>weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
	HWAAD63	854	<p>Regulation of transcription through the FAS promoter element in hepatocytes</p>	<p>Assays for the regulation of transcription through the FAS promoter element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to activate the FAS promoter element in a reporter construct and to regulate transcription of FAS, a key enzyme for lipogenesis. FAS promoter is regulated by many</p>	<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic</p>

				<p>transcription factors including SREBP. Insulin increases FAS gene transcription in livers of diabetic mice. This stimulation of transcription is also somewhat glucose dependent. Exemplary assays that may be used or routinely modified to test for FAS promoter element activity (in hepatocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Xiong, S., et al., Proc Natl Acad Sci U.S.A., 97(8):3948-53 (2000); Roder, K., et al., Eur J Biochem, 260(3):743-51 (1999); Oskouian B, et al., Biochem J, 317 ( Pt 1):257-65 (1996); Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol. 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Hepatocytes that may be used according to these assays, such as H4IIE cells, are publicly</p>	<p>neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypermolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred</p>
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			<p>available (e.g., through the ATCC) and/or may be routinely generated. Exemplary hepatocytes that may be used according to these assays include rat liver hepatoma cell line(s) inducible with glucocorticoids, insulin, or cAMP derivatives.</p>	<p>indication is obesity and/or complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
HWABY10	855	Production of IL-6	<p>IL-6 FMT. IL-6 is produced by T cells and has strong effects on B cells. IL-6 participates in IL-4 induced IgE production and increases IgA production (IgA plays a role in mucosal immunity). IL-6 induces cytotoxic T cells. Deregulated expression of IL-6 has been linked to autoimmune disease, plasmacytomas, myelomas, and chronic hyperproliferative diseases. Assays for immunomodulatory and differentiation factor and proteins produced by a large variety of cells where the expression level is strongly regulated by cytokines, growth factors, and hormones are well known in the art and may be used or routinely modified to</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-6 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-6 production. A highly preferred indication is the stimulation or enhancement of mucosal immunity. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., as described below under "Infectious Disease"). Highly preferred indications include</p>

			<p>assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation and differentiation and modulate T cell proliferation and function. Exemplary assays that test for immunomodulatory proteins evaluate the production of cytokines, such as IL-6, and the stimulation and upregulation of T cell proliferation and functional activities. Such assays that may be used or routinely modified to test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); and Verhasselt et al., J Immunol 158: 2919-2925</p>	<p>autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Highly preferred indications also include boosting a B cell-mediated immune response and alternatively suppressing a B cell-mediated immune response. Highly preferred indications include inflammation and inflammatory disorders. Additional highly preferred indications include asthma and allergy. Highly preferred indications include neoplastic diseases (e.g., myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, myeloma, plasmacytoma, leukemia, lymphoma, melanoma, and</p>
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				<p>(1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p> <p>prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, and Lyme Disease. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
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HWABY10	855	<p>Activation of transcription through serum response element in immune cells (such as natural killer cells).</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and</p>
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				<p>3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL),</p>
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				<p>plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
HWABY10	855	<p>Activation of transcription through CD28 response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the CD28 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate IL-2 expression in T cells. Exemplary assays for transcription through the CD28</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating T cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting T cell proliferation. A highly preferred embodiment of the invention includes a method for activating T cells. An alternative highly preferred</p>

				<p>response element that may be used or routinely modified to test CD28-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); McGuire and Iacobelli, J Immunol 159(3):1319-1327 (1997); Parra et al., J Immunol 166(4):2437-2443 (2001); and Butscher et al., J Biol Chem 3(1):552-560 (1998), the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary human T cells that may be used according to these assays include the SUPT cell line, which is a suspension culture of IL-2 and IL-4</p>	<p>embodiment of the invention includes a method for inhibiting the activation of and/or inactivating T cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) IL-2 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) IL-2 production. Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Highly preferred indications include neoplastic diseases (e.g., melanoma, renal</p>
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				responsive T cells.	cell carcinoma, leukemia, lymphoma, and/or as described below under “Hyperproliferative Disorders”). Highly preferred indications include neoplasms and cancers, such as, for example, melanoma (e.g., metastatic melanoma), renal cell carcinoma (e.g., metastatic renal cell carcinoma), leukemia, lymphoma (e.g., T cell lymphoma), and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. A highly preferred indication includes infection (e.g., AIDS, tuberculosis, infections associated with granulomatous disease, and osteoporosis, and/or as described below under “Infectious Disease”). A highly preferred indication is AIDS. Additional highly
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					<p>preferred indications include suppression of immune reactions to transplanted organs and/or tissues, uveitis, psoriasis, and tropical spastic paraparesis. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, asthma and allergy.</p>
	HWAD189	856	Activation of transcription through serum response element in	Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha</p>

			<p>immune cells (such as T-cells).</p>	<p>art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are</p>	<p>production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p>
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				<p>publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia; and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel</p>
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				<p>disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
	HWADJ89	856	<p>Stimulation of insulin secretion from pancreatic beta cells.</p>	<p>Assays for measuring secretion of insulin are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to stimulate insulin secretion. For example, insulin secretion is measured by FMAT using anti-rat insulin antibodies. Insulin secretion from pancreatic beta cells is upregulated by glucose and also by certain proteins/peptides, and</p>
				<p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage (e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke,</p>

				<p>disregulation is a key component in diabetes. Exemplary assays that may be used or routinely modified to test for stimulation of insulin secretion (from pancreatic cells) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Ahren, B., et al., Am J Physiol, 277(4 Pt 2):R959-66 (1999); Li, M., et al., Endocrinology, 138(9):3735-40 (1997); Kim, K.H., et al., FEBS Lett, 377(2):237-9 (1995); and, Miraglia S et. al., Journal of Biomolecular Screening, 4:193-204 (1999), the contents of each of which is herein incorporated by reference in its entirety. Pancreatic cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary pancreatic cells that may be used according to these assays include rat INS-1 cells. INS-1</p>	<p>impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hyperosmolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with</p>
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				<p>cells are a semi-adherent cell line established from cells isolated from an X-ray induced rat transplantable insulinoma. These cells retain characteristics typical of native pancreatic beta cells including glucose inducible insulin secretion. References: Asfari et al. Endocrinology 1992 130:167.</p>	<p>obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
	HWBCB89	857	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus,</p>

			<p>antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other</p>
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					<p>preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").</p>
	HWBCB89	857	Activation of transcription	This reporter assay measures activation of the GATA-3	Highly preferred indications include allergy, asthma, and

			<p>through GATA-3 response element in immune cells (such as mast cells).</p>	<p>signaling pathway in HMC-1 human mast cell line. Activation of GATA-3 in mast cells has been linked to cytokine and chemokine production. Assays for the activation of transcription through the GATA3 response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate GATA3 transcription factors and modulate expression of mast cell genes important for immune response development. Exemplary assays for transcription through the GATA3 response element that may be used or routinely modified to test GATA3-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and</p>	<p>rhinitis. Additional preferred indications include infection (e.g., an infectious disease as described below under "Infectious Disease"), and inflammation and inflammatory disorders. Preferred indications also include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, melanoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary tract cancers and/or as described below under "Hyperproliferative Disorders"). Other preferred</p>
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	HWBCB89	857	CD152 in Human T cells			

HWBCB89	857	<p>Activation of transcription through NFKB response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the NFKB response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate NFKB transcription factors and modulate expression of immunomodulatory genes. Exemplary assays for transcription through the NFKB response element that may be used or routinely modified to test NFKB-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Black et al., Virus Gnes 15(2):105-117 (1997); and Fraser et al.,</p>	<p>Highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), and immunodeficiencies (e.g., as described below). An additional highly preferred indication is infection (e.g., AIDS, and/or an infectious disease as described below under "Infectious Disease"). Highly preferred indications include neoplastic diseases (e.g., melanoma, leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for</p>
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				<p>29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. Exemplary human T cells, such as the MOLT4, that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>example, melanoma, renal cell carcinoma, leukemia, lymphoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, suppression of immune reactions to transplanted organs, asthma and allergy.</p>
	HW/BCB89	857	Production of ICAM-1	Assays for measuring expression of ICAM-1 are	Preferred embodiments of the invention include using

			well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate ICAM-1 expression. Exemplary assays that may be used or routinely modified to measure ICAM-1 expression include assays disclosed in: Takacs P, et al, FASEB J, 15(2):279-281 (2001); and, Miyamoto K, et al., Am J Pathol, 156(5):1733-1739 (2000), the contents of each of which is herein incorporated by reference in its entirety. Cells that may be used according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary cells that may be used according to these assays include microvascular endothelial cells (MVEC).	polypeptides of the invention (or antibodies, agonists, or antagonists thereof) in detection, diagnosis, prevention, and/or treatment of Inflammation, Vascular Disease, Atherosclerosis, Restenosis, and Stroke
			Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the	A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha
			Activation of transcription through serum response element in	
		857		
	HWBCB89			

			<p>immune cells (such as natural killer cells).</p>	<p>art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate serum response factors and modulate the expression of genes involved in growth and upregulate the function of growth-related genes in many cell types. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Benson et al., J Immunol 153(9):3862-3873 (1994); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated</p>	<p>production. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis.</p>
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				<p>by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the NK-YT cell line, which is a human natural killer cell line with cytolytic and cytotoxic activity.</p>	<p>Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel</p>
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	HWBFX31	858	<p>Regulation of transcription of Malic Enzyme in adipocytes</p>	<p>Assays for the regulation of transcription of Malic Enzyme are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate transcription of Malic Enzyme, a key enzyme in lipogenesis. Malic enzyme is involved in lipogenesis and its expression is stimulated by insulin. ME promoter contains two direct repeat (DR1)- like elements MEp and MEEd identified as</p>

				<p>putative PPAR response elements. ME promoter may also responds to API and other transcription factors. Exemplary assays that may be used or routinely modified to test for regulation of transcription of Malic Enzyme (in adipocytes) by polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in: Streeper, R.S., et al., Mol Endocrinol, 12(11):1778-91 (1998); Garcia-Jimenez, C., et al., Mol Endocrinol, 8(10):1361-9 (1994); Barroso, I., et al., J Biol Chem, 274(25):17997-8004 (1999); Ijpenberg, A., et al., J Biol Chem, 272(32):20108-20117 (1997); Berger, et al., Gene 66:1-10 (1988); and, Cullen, B., et al., Methods in Enzymol. 216:362-368 (1992), the contents of each of which is herein incorporated by reference in its entirety. Hepatocytes that may be used</p>	<p>impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypermolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, and infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below, especially of the urinary tract and skin), carpal tunnel syndrome and Dupuytren's contracture). An additional highly preferred indication is obesity and/or complications associated with</p>
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				<p>according to these assays are publicly available (e.g., through the ATCC) and/or may be routinely generated. Exemplary hepatocytes that may be used according to these assays includes the H4IIE rat liver hepatoma cell line.</p>	<p>obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p>
	HWBFX31	858	SEAP in OE-33		
	HWDAH38	859	<p>Activation of transcription through serum response element in immune cells (such as T-cells).</p>	<p>Assays for the activation of transcription through the Serum Response Element (SRE) are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate the serum response factors and modulate the expression of genes involved in growth. Exemplary assays for transcription through the SRE that may be used or routinely modified to test SRE activity of the polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in</p>	<p>A preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) TNF alpha production. An alternative preferred embodiment of the invention includes a method for stimulating (e.g., increasing) TNF alpha production. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), Highly preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, Crohn's disease, multiple sclerosis and/or as described</p>

				<p>Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); and Black et al., Virus Genes 12(2):105-117 (1997), the content of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension culture of T cells with cytotoxic activity.</p>	<p>below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional highly preferred indications include inflammation and inflammatory disorders, and treating joint damage in patients with rheumatoid arthritis. An additional highly preferred indication is sepsis. Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Additionally, highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma, melanoma, glioma (e.g., malignant glioma), solid tumors, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative</p>
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					disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, cardiac reperfusion injury, and asthma and allergy. An additional preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease").
	HWD4H38	859	SEAP in OE-33		
	HWHGZ51	860	Activation of transcription through GAS	Assays for the activation of transcription through the Gamma Interferon Activation	Highly preferred indications include neoplastic diseases (e.g., leukemia, lymphoma,

			<p>response element in immune cells (such as T-cells).</p>	<p>Site (GAS) response element are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate STAT transcription factors and modulate gene expression involved in a wide variety of cell functions. Exemplary assays for transcription through the GAS response element that may be used or routinely modified to test GAS-response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Matikainen et al., Blood 93(6):1980-1991 (1999); and Hentinen et al., J Immunol 155(10):4582-4587 (1995), the</p>	<p>and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, for example, leukemia, lymphoma (e.g., T cell lymphoma, Burkitt's lymphoma, non-Hodgkins lymphoma, Hodgkin's disease), melanoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below), immunodeficiencies (e.g., as described below), boosting a T cell-mediated immune response, and suppressing a T cell-mediated immune response. Additional</p>
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				<p>contents of each of which are herein incorporated by reference in its entirety. Exemplary mouse T cells that may be used according to these assays are publicly available (e.g., through the ATCC). Exemplary T cells that may be used according to these assays include the CTLL cell line, which is a suspension culture of IL-2 dependent cytotoxic T cells.</p>	<p>preferred indications include inflammation and inflammatory disorders. Highly preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"), and infection (e.g., viral infections, tuberculosis, infections associated with chronic granulomatous disease and malignant osteoporosis, and/or an infectious disease as described below under "Infectious Disease"). An additional preferred indication is idiopathic pulmonary fibrosis. Preferred indications include anemia, pancytopenia, leukopenia, thrombocytopenia, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune</p>
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					reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis, Lyme Disease, and asthma and allergy.
	HWHGZ51	860	Production of MCP-1	<p>MCP-1 FMAT. Assays for immunomodulatory proteins that are produced by a large variety of cells and act to induce chemotaxis and activation of monocytes and T cells are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to mediate immunomodulation, induce chemotaxis, and modulate immune cell activation. Exemplary assays that test for immunomodulatory proteins evaluate the production of cell surface markers, such as monocyte chemoattractant protein (MCP), and the activation of monocytes and T cells. Such assays that may be used or routinely modified to</p>	<p>A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) MCP-1 production. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., reducing) MCP-1 production. A highly preferred indication is infection (e.g., an infectious disease as described below under "Infectious Disease"). Additional highly preferred indications include inflammation and inflammatory disorders. Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Highly preferred indications</p>

			<p>test immunomodulatory and differentiation activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Miraglia et al., J Biomolecular Screening 4:193-204(1999); Rowland et al., "Lymphocytes: a practical approach" Chapter 6:138-160 (2000); Sathaporn and Eremin, J R Coll Surg Ednb 45(1):9-19 (2001); and Verhasselt et al., J Immunol 158:2919-2925 (1997), the contents of each of which are herein incorporated by reference in its entirety. Human dendritic cells that may be used according to these assays may be isolated using techniques disclosed herein or otherwise known in the art. Human dendritic cells are antigen presenting cells in suspension culture, which, when activated by antigen and/or cytokines, initiate and upregulate T cell proliferation and functional activities.</p>	<p>include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Preferred indications also include anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, arthritis, AIDS, granulomatous disease, inflammatory bowel disease, sepsis, neutropenia, neutrophilia, psoriasis, suppression of immune reactions to transplanted organs and tissues, hemophilia, hypercoagulation, diabetes mellitus, endocarditis, meningitis (bacterial and viral), Lyme Disease, asthma, and allergy Preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative</p>
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				<p>response element activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include assays disclosed in Berger et al., Gene 66:1-10 (1998); Cullen and Malm, Methods in Enzymol 216:362-368 (1992); Henthorn et al., Proc Natl Acad Sci USA 85:6342-6346 (1988); Valle Blazquez et al, Immunology 90(3):455-460 (1997); Aramburau et al., J Exp Med 82(3):801-810 (1995); and Fraser et al., 29(3):838-844 (1999), the contents of each of which are herein incorporated by reference in its entirety. For example, a reporter assay (which measures increases in transcription inducible from a NFkB responsive element in EOL-1 cells) may link the NFkB element to a reporter gene and binds to the NFkB transcription factor, which is upregulated by cytokines and other factors. Exemplary immune cells that may be used according to these assays</p>	<p>sclerosis and/or as described below) and immunodeficiencies (e.g., as described below).</p>
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				include eosinophils such as the human EOL-1 cell line of eosinophils. Eosinophils are a type of immune cell important in the allergic responses; they are recruited to tissues and mediate the inflammatory response of late stage allergic reaction. Eol-1 is a human eosinophil cell line.	
	HWHGZ51	860	CD152 in Human T cells		
	HWHGZ51	860	HLA-DR in Human T cells		
	HWHGZ51	860	SEAP in OE-33		
	HWHGZ51	860	Hexosaminidase in RBL-2H3		
	HWLIH65	861	Activation of T-Cell p38 or JNK Signaling Pathway.	Kinase assay. JNK and p38 kinase assays for signal transduction that regulate cell proliferation, activation, or apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit immune cell (e.g. T-cell) proliferation, activation, and apoptosis.	Preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), and infection (e.g., an infectious disease as described below under "Infectious Disease"). Highly preferred indications include



				<p>Exemplary assays for JNK and p38 kinase activity that may be used or routinely modified to test JNK and p38 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., Biol Chem 379(8-9):1101-1110 (1998); Gupta et al., Exp Cell Res 247(2): 495-504 (1999); Kyriakis JM, Biochem Soc Symp 64:29-48 (1999); Chang and Karin, Nature 410(6824):37-40 (2001); and Cobb MH, Prog Biophys Mol Biol 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. T cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p> <p>Exemplary mouse T cells that may be used according to these assays include the CTLL cell line, which is an IL-2 dependent suspension-culture</p>	<p>autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional highly preferred indications include inflammation and inflammatory disorders. Highly preferred indications also include neoplastic diseases (e.g., leukemia, lymphoma, and/or as described below under "Hyperproliferative Disorders"). Highly preferred indications include neoplasms and cancers, such as, leukemia, lymphoma, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Preferred indications include arthritis, asthma, AIDS,</p>
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				cell line with cytotoxic activity.	allergy, anemia, pancytopenia, leukopenia, thrombocytopenia, Hodgkin's disease, acute lymphocytic anemia (ALL), plasmacytomas, multiple myeloma, Burkitt's lymphoma, granulomatous disease, inflammatory bowel disease, sepsis, psoriasis, suppression of immune reactions to transplanted organs and tissues, endocarditis, meningitis, and Lyme Disease.
HWLIH65	861	Production of VCAM in endothelial cells (such as human umbilical vein endothelial cells (HUVEC))	Assays for measuring expression of VCAM are well-known in the art and may be used or routinely modified to assess the ability of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) to regulate VCAM expression. For example, FMAT may be used to measure the upregulation of cell surface VCAM-1 expression in endothelial cells. Endothelial cells are cells that line blood vessels, and are involved in functions that include, but are not limited to, angiogenesis,	Highly preferred indications include inflammation (acute and chronic), restnosis, atherosclerosis, asthma and allergy. Highly preferred indications include inflammation and inflammatory disorders, immunological disorders, neoplastic disorders (e.g. cancer/tumorigenesis), and cardiovascular disorders (such as described below under "Immune Activity", "Blood-Related Disorders", "Hyperproliferative Disorders" and/or "Cardiovascular Disorders"). Highly preferred	

				vascular permeability, vascular tone, and immune cell extravasation. Exemplary endothelial cells that may be used according to these assays include human umbilical vein endothelial cells (HUVEC), which are available from commercial sources. The expression of VCAM (CD106), a membrane-associated protein, can be upregulated by cytokines or other factors, and contributes to the extravasation of lymphocytes, leucocytes and other immune cells from blood vessels; thus VCAM expression plays a role in promoting immune and inflammatory responses.	indications include neoplasms and cancers such as, for example, leukemia, lymphoma, melanoma, renal cell carcinoma, and prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver and urinary cancer. Other preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia.
HTEAM34	862	TNF $\alpha$ in Human T-cell 2B9			
HTEAM34	862	Activation of Endothelial Cell p38 or JNK Signaling Pathway.		Kinase assay. JNK and p38 kinase assays for signal transduction that regulate cell proliferation, activation, or apoptosis are well known in the art and may be used or routinely modified to assess the ability of polypeptides of	A highly preferred embodiment of the invention includes a method for stimulating endothelial cell growth. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell

			<p>the invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and apoptosis. Exemplary assays for JNK and p38 kinase activity that may be used or routinely modified to test JNK and p38 kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., Biol Chem 379(8-9):1101-1110 (1998); Gupta et al., Exp Cell Res 247(2): 495-504 (1999); Kyriakis JM, Biochem Soc Symp 64:29-48 (1999); Chang and Karin, Nature 410(6824):37-40 (2001); and Cobb MH, Prog Biophys Mol Biol 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Endothelial cells that may be used according to these assays are publicly available (e.g., through the ATCC).</p>	<p>growth. A highly preferred embodiment of the invention includes a method for stimulating endothelial cell proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting endothelial cell proliferation. A highly preferred embodiment of the invention includes a method for stimulating apoptosis of endothelial cells. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) apoptosis of endothelial cells. A highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) endothelial cell activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting (e.g., decreasing) the activation of and/or inactivating endothelial cells. A highly preferred</p>
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				<p>Exemplary endothelial cells that may be used according to these assays include human umbilical vein endothelial cells (HUVEC), which are endothelial cells which line venous blood vessels, and are involved in functions that include, but are not limited to, angiogenesis, vascular permeability, vascular tone, and immune cell extravasation.</p>	<p>embodiment of the invention includes a method for stimulating angiogenesis. An alternative highly preferred embodiment of the invention includes a method for inhibiting angiogenesis. A highly preferred embodiment of the invention includes a method for reducing cardiac hypertrophy. An alternative highly preferred embodiment of the invention includes a method for inducing cardiac hypertrophy. Highly preferred indications include neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), and disorders of the cardiovascular system (e.g., heart disease, congestive heart failure, hypertension, aortic stenosis, cardiomyopathy, valvular regurgitation, left ventricular dysfunction, atherosclerosis and atherosclerotic vascular disease, diabetic nephropathy, intracardiac shunt, cardiac hypertrophy, myocardial</p>
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					<p>infarction, chronic hemodynamic overload, and/or as described below under “Cardiovascular Disorders”).</p> <p>Highly preferred indications include cardiovascular, endothelial and/or angiogenic disorders (e.g., systemic disorders that affect vessels such as diabetes mellitus, as well as diseases of the vessels themselves, such as of the arteries, capillaries, veins and/or lymphatics). Highly preferred are indications that stimulate angiogenesis and/or cardiovascularization. Highly preferred are indications that inhibit angiogenesis and/or cardiovascularization.</p> <p>Highly preferred indications include antiangiogenic activity to treat solid tumors, leukemias, and Kaposi's sarcoma, and retinal disorders.</p> <p>Highly preferred indications include neoplasms and cancer, such as, Kaposi's sarcoma, hemangioma (capillary and cavernous), glomus tumors, telangiectasia, bacillary</p>
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					<p>angiomatosis, hemangioendothelioma, angiosarcoma, haemangiopericytoma, lymphangioma, lymphangiosarcoma. Highly preferred indications also include cancers such as, prostate, breast, lung, colon, pancreatic, esophageal, stomach, brain, liver, and urinary cancer. Preferred indications include benign dysproliferative disorders and pre-neoplastic conditions, such as, for example, hyperplasia, metaplasia, and/or dysplasia. Highly preferred indications also include arterial disease, such as, atherosclerosis, hypertension, coronary artery disease, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, restenosis; venous and lymphatic disorders such as thrombophlebitis, lymphangitis, and lymphedema; and other vascular disorders such as</p>
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					<p>peripheral vascular disease, and cancer. Highly preferred indications also include trauma such as wounds, burns, and injured tissue (e.g., vascular injury such as, injury resulting from balloon angioplasty, and atherosclerotic lesions), implant fixation, scarring, ischemia reperfusion injury, rheumatoid arthritis, cerebrovascular disease, renal diseases such as acute renal failure, and osteoporosis. Additional highly preferred indications include stroke, graft rejection, diabetic or other retinopathies, thrombotic and coagulative disorders, vasculitis, lymph angiogenesis, sexual disorders, age-related macular degeneration, and treatment /prevention of endometriosis and related conditions. Additional highly preferred indications include fibromas, heart disease, cardiac arrest, heart valve disease, and vascular disease.</p>
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					Preferred indications include blood disorders (e.g., as described below under "Immune Activity", "Blood-Related Disorders", and/or "Cardiovascular Disorders"). Preferred indications include autoimmune diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis and/or as described below) and immunodeficiencies (e.g., as described below). Additional preferred indications include inflammation and inflammatory disorders (such as acute and chronic inflammatory diseases, e.g., inflammatory bowel disease and Crohn's disease), and pain management.
					A highly preferred embodiment of the invention includes a method for stimulating adipocyte proliferation. An alternative highly preferred embodiment of the invention includes a method for inhibiting adipocyte proliferation. A
					Kinase assay. Kinase assays, for example an Elk-1 kinase assay, for ERK signal transduction that regulate cell proliferation or differentiation are well known in the art and may be used or routinely modified to assess the ability of polypeptides of the
					Activation of Adipocyte ERK Signaling Pathway
					863
					HTEJN13

			<p>invention (including antibodies and agonists or antagonists of the invention) to promote or inhibit cell proliferation, activation, and differentiation. Exemplary assays for ERK kinase activity that may be used or routinely modified to test ERK kinase-induced activity of polypeptides of the invention (including antibodies and agonists or antagonists of the invention) include the assays disclosed in Forrer et al., Biol Chem 379(8-9):1101-1110 (1998); Le Marchand-Brustel Y, Exp Clin Endocrinol Diabetes 107(2):126-132 (1999); Kyriakis JM, Biochem Soc Symp 64:29-48 (1999); Chang and Karin, Nature 410(6824):37-40 (2001); and Cobb MH, Prog Biophys Mol Biol 71(3-4):479-500 (1999); the contents of each of which are herein incorporated by reference in its entirety. Mouse adipocyte cells that may be used according to these assays are publicly available</p>	<p>highly preferred embodiment of the invention includes a method for stimulating adipocyte differentiation. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for stimulating (e.g., increasing) adipocyte activation. An alternative highly preferred embodiment of the invention includes a method for inhibiting the activation of (e.g., decreasing) and/or inactivating adipocytes. Highly preferred indications include endocrine disorders (e.g., as described below under "Endocrine Disorders"). Highly preferred indications also include neoplastic diseases (e.g., lipomas, liposarcomas, and/or as described below under "Hyperproliferative Disorders"). Preferred indications include blood</p>
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				<p>(e.g., through the ATCC). Exemplary mouse adipocyte cells that may be used according to these assays include 3T3-L1 cells. 3T3-L1 is an adherent mouse preadipocyte cell line that is a continuous substrain of 3T3 fibroblast cells developed through clonal isolation and undergo a pre-adipocyte to adipose-like conversion under appropriate differentiation conditions known in the art.</p>	<p>disorders (e.g., hypertension, congestive heart failure, blood vessel blockage, heart disease, stroke, impotence and/or as described below under "Immune Activity", "Cardiovascular Disorders", and/or "Blood-Related Disorders"), immune disorders (e.g., as described below under "Immune Activity"), neural disorders (e.g., as described below under "Neural Activity and Neurological Diseases"), and infection (e.g., as described below under "Infectious Disease").</p> <p>A highly preferred indication is diabetes mellitus. An additional highly preferred indication is a complication associated with diabetes (e.g., diabetic retinopathy, diabetic nephropathy, kidney disease (e.g., renal failure, nephropathy and/or other diseases and disorders as described in the "Renal Disorders" section below), diabetic neuropathy, nerve disease and nerve damage</p>
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					<p>(e.g., due to diabetic neuropathy), blood vessel blockage, heart disease, stroke, impotence (e.g., due to diabetic neuropathy or blood vessel blockage), seizures, mental confusion, drowsiness, nonketotic hyperglycemic-hypermolar coma, cardiovascular disease (e.g., heart disease, atherosclerosis, microvascular disease, hypertension, stroke, and other diseases and disorders as described in the "Cardiovascular Disorders" section below), dyslipidemia, endocrine disorders (as described in the "Endocrine Disorders" section below), neuropathy, vision impairment (e.g., diabetic retinopathy and blindness), ulcers and impaired wound healing, infection (e.g., infectious diseases and disorders as described in the "Infectious Diseases" section below (particularly of the urinary tract and skin). An additional highly preferred indication is obesity and/or</p>
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					<p>complications associated with obesity. Additional highly preferred indications include weight loss or alternatively, weight gain. Additional highly preferred indications are complications associated with insulin resistance.</p> <p>Additional highly preferred indications are disorders of the musculoskeletal systems including myopathies, muscular dystrophy, and/or as described herein.</p> <p>Additional highly preferred indications include, hypertension, coronary artery disease, dyslipidemia, gallstones, osteoarthritis, degenerative arthritis, eating disorders, fibrosis, cachexia, and kidney diseases or disorders. Preferred indications include neoplasms and cancer, such as, lymphoma, leukemia and breast, colon, and kidney cancer. Additional preferred indications include melanoma, prostate, lung, pancreatic, esophageal, stomach, brain,</p>
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### Table 1E

Polynucleotides encoding polypeptides of the present invention can be used in assays to test for one or more biological activities. One such biological activity which may be tested includes the ability of polynucleotides and polypeptides of the invention to stimulate up-regulation or down-regulation of expression of particular genes and proteins. Hence, if polynucleotides and polypeptides of the present invention exhibit activity in altering particular gene and protein expression patterns, it is likely that these polynucleotides and polypeptides of the present invention may be involved in, or capable of effecting changes in, diseases associated with the altered gene and protein expression profiles. Hence, polynucleotides, polypeptides, or antibodies of the present invention could be used to treat said associated diseases.

TaqMan® assays may be performed to assess the ability of polynucleotides (and polypeptides they encode) to alter the expression pattern of particular "target" genes. TaqMan® reactions are performed to evaluate the ability of a test agent to induce or repress expression of specific genes in different cell types. TaqMan® gene expression quantification assays ("TaqMan® assays") are well known to, and routinely performed by, those of ordinary skill in the art. TaqMan® assays are performed in a two step reverse transcription / polymerase chain reaction (RT-PCR). In the first (RT) step, cDNA is reverse transcribed from total RNA samples using random hexamer primers. In the second (PCR) step, PCR products are synthesized from the cDNA using gene specific primers.

To quantify gene expression the Taqman® PCR reaction exploits the 5' nuclease activity of AmpliTaq Gold® DNA Polymerase to cleave a Taqman® probe (distinct from the primers) during PCR. The Taqman® probe contains a reporter dye at the 5'-end of the probe and a quencher dye at the 3' end of the probe. When the probe is intact, the proximity of the reporter dye to the quencher dye results in suppression of the reporter fluorescence. During PCR, if the target of interest is present, the probe specifically anneals between the forward and reverse primer sites. AmpliTaq Fold DNA Polymerase then cleaves the probe between the reporter and quencher when the probe hybridizes to the target, resulting in increased fluorescence of the reporter (see Figure 2). Accumulation of PCR products is detected directly by monitoring the increase in fluorescence of the reporter dye.

After the probe fragments are displaced from the target, polymerization of the strand continues. The 3'-end of the probe is blocked to prevent extension of the probe during PCR. This process occurs in every cycle and does not interfere with the exponential accumulation of product. The increase in fluorescence signal is detected only if the target sequence is complementary to the probe and is amplified during PCR. Because of these requirements, any nonspecific amplification is not detected.



For test sample preparation, vector controls or constructs containing the coding sequence for the gene of interest are transfected into cells, such as for example 293T cells, and supernatants collected after 48 hours. For cell treatment and RNA isolation, multiple primary human cells or human cell lines are used; such cells may include but are not limited to, Normal Human Dermal Fibroblasts, Aortic Smooth Muscle, Human Umbilical Vein Endothelial Cells, HepG2, Daudi, Jurkat, U937, Caco, and THP-1 cell lines. Cells are plated in growth media and growth is arrested by culturing without media change for 3 days, or by switching cells to low serum media and incubating overnight. Cells are treated for 1, 6, or 24 hours with either vector control supernatant or sample supernatant (or purified/partially purified protein preparations in buffer). Total RNA is isolated; for example, by using Trizol extraction or by using the Ambion RNAqueous(TM)-4PCR RNA isolation system. Expression levels of multiple genes are analyzed using TAQMAN, and expression in the test sample is compared to control vector samples to identify genes induced or repressed. Each of the above described techniques are well known to, and routinely performed by, those of ordinary skill in the art.

Table 1E indicates particular disease classes and preferred indications for which polynucleotides, polypeptides, or antibodies of the present invention may be used in detecting, diagnosing, preventing, treating and/or ameliorating said diseases and disorders based on "target" gene expression patterns which may be up- or down-regulated by polynucleotides (and the encoded polypeptides) corresponding to each indicated cDNA Clone ID (shown in Table 1E, Column 2).

Thus, in preferred embodiments, the present invention encompasses a method of detecting, diagnosing, preventing, treating, and/or ameliorating a disease or disorder listed in the "Disease Class" and/or "Preferred Indication" columns of Table 1E; comprising administering to a patient in which such detection, diagnosis, prevention, or treatment is desired a protein, nucleic acid, or antibody of the invention (or fragment or variant thereof) in an amount effective to detect, diagnose, prevent, treat, or ameliorate the disease or disorder. The first and second columns of Table 1D show the "Gene No." and "cDNA Clone ID No.", respectively, indicating certain nucleic acids and proteins (or antibodies against the same) of the invention (including polynucleotide, polypeptide, and antibody fragments or variants thereof) that may be used in detecting, diagnosing, preventing, treating, or ameliorating the disease(s) or disorder(s) indicated in the corresponding row in the "Disease Class" or "Preferred Indication" Columns of Table 1E.

In another embodiment, the present invention also encompasses methods of detecting, diagnosing, preventing, treating, or ameliorating a disease or disorder listed in the "Disease Class" or "Preferred Indication" Columns of Table 1E; comprising administering to a patient combinations of the proteins, nucleic acids, or antibodies of the invention (or fragments or variants thereof), sharing similar indications as shown in the corresponding rows in the "Disease Class" or "Preferred Indication" Columns of Table 1E.

The "Disease Class" Column of Table 1E provides a categorized descriptive heading for diseases, disorders, and/or conditions (more fully described below) that may be detected, diagnosed, prevented, treated, or ameliorated by a protein, nucleic acid, or antibody of the invention (or fragment or variant thereof).

5           The "Preferred Indication" Column of Table 1E describes diseases, disorders, and/or conditions that may be detected, diagnosed, prevented, treated, or ameliorated by a protein, nucleic acid, or antibody of the invention (or fragment or variant thereof).

10           The "Cell Line" and "Exemplary Targets" Columns of Table 1E indicate particular cell lines and target genes, respectively, which may show altered gene expression patterns (i.e., up- or down-regulation of the indicated target gene) in Taqman assays, performed as described above, utilizing polynucleotides of the cDNA Clone ID shown in the corresponding row. Alteration of expression patterns of the indicated "Exemplary Target" genes is correlated with a particular "Disease Class" and/or "Preferred Indication" as shown in the corresponding row under the respective column headings.

15           The "Exemplary Accessions" Column indicates GenBank Accessions (available online through the National Center for Biotechnology Information (NCBI) at <http://www.ncbi.nlm.nih.gov/>) which correspond to the "Exemplary Targets" shown in the adjacent row.

20           The recitation of "Cancer" in the "Disease Class" Column indicates that the corresponding nucleic acid and protein, or antibody against the same, of the invention (or fragment or variant thereof) may be used for example, to detect, diagnose, prevent, treat, and/or ameliorate neoplastic diseases and/or disorders (e.g., leukemias, cancers, etc., as described below under "Hyperproliferative Disorders").

25           The recitation of "Immune" in the "Disease Class" column indicates that the corresponding nucleic acid and protein, or antibody against the same, of the invention (or fragment or variant thereof), may be used for example, to detect, diagnose, prevent, treat, and/or ameliorate diseases and/or disorders relating to neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), blood disorders (e.g., as described below under "Immune Activity" "Cardiovascular Disorders" and/or "Blood-Related Disorders"), and infections (e.g., as described below under "Infectious Disease").

30           The recitation of "Angiogenesis" in the "Disease Class" column indicates that the corresponding nucleic acid and protein, or antibody against the same, of the invention (or fragment or variant thereof), may be used for example, to detect, diagnose, treat, prevent, and/or ameliorate diseases and/or disorders relating to neoplastic diseases (e.g., as described below under "Hyperproliferative Disorders"), diseases and/or disorders of the cardiovascular system (e.g., as described below under "Cardiovascular Disorders"), diseases and/or disorders involving cellular and genetic abnormalities (e.g., as described below under "Diseases at the Cellular Level"),

diseases and/or disorders involving angiogenesis (e.g., as described below under "Anti-Angiogenesis Activity"), to promote or inhibit cell or tissue regeneration (e.g., as described below under "Regeneration"), or to promote wound healing (e.g., as described below under "Wound Healing and Epithelial Cell Proliferation").

5           The recitation of "Diabetes" in the "Disease Class" column indicates that the corresponding nucleic acid and protein, or antibody against the same, of the invention (or fragment or variant thereof), may be used for example, to detect, diagnose, treat, prevent, and/or ameliorate diabetes (including diabetes mellitus types I and II), as well as diseases and/or disorders associated with, or consequential to, diabetes (e.g. as described below under "Endocrine Disorders," "Renal  
10 Disorders," and "Gastrointestinal Disorders").

Table 1E

Gene No.	cDNA CloneID	Disease Class	Preferred Indications	Cell Line	Exemplary Targets	Exemplary Accessions
7	HAGDG59	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (AOSMC cells are aortic smooth muscle cells).	AOSMC	Vegf1	gb AF024710 A F024710
7	HAGDG59	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The HEK293 cell line is a human embryonal kidney epithelial cell line available through the ATCC as cell line number CRL-1573).	HEK293	TSP-1	gb X04665 HST HROMR
7	HAGDG59	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The HEK293 cell line is a human embryonal kidney epithelial cell line available through the ATCC as cell line number CRL-1573).	HUVEC	Vegf1	gb AF024710 A F024710

				tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (HUVCEC cells are human umbilical vein endothelial cells).			
7	HAGDG59	Angiogenesis		Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The SK-N-MC neuroblastoma cell line is a cell line derived from human brain tissue available through the ATCC as cell line number HTB-10).	SK-N-MC neuroblastoma	Cycloox Vegf1	gb AF024710 A F024710
40	HCHNF25	Angiogenesis		Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The Caco-2 cell line is a human colorectal adenocarcinoma cell line available through the ATCC as cell line number HTB-37).	Caco-2	ICAM VCAM	gb X06990 HSI CAMI gb A30922 A30 922
40	HCHNF25	Angiogenesis		Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The Caco-2 cell line is a human colorectal adenocarcinoma cell line available through the ATCC as cell line number HTB-37).	Daudi	Vegf1	gb AF024710 A F024710

40	HCHNF25	Angiogenesis	neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The Daudi cell line is a human B lymphoblast cell line available through the ATCC as cell line number CCL-213).	HUVEC	Vegf1	gb AF024710 A F024710
40	HCHNF25	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (HUVEC cells are human umbilical vein endothelial cells).	Jurkat	VCAM	gb A30922 A30 922
40	HCHNF25	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The Jurkat cell line is a human T lymphocyte cell line available through the ATCC as cell line number TIB-152).	NHDF	PAI	gb X12701 HSE NDPAI

				and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (NHDF cells are normal human dermal fibroblasts).				
40	HCHNF25	Angiogenesis		Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The THP-1 cell line is a human monocyte cell line available through the ATCC as cell line number TIB-202).	THP1	Vegf1	gb AF024710 A F024710	
40	HCHNF25	Angiogenesis		Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The U937 cell line is a human monocyte cell line available through the ATCC as cell line number CRL-1593.2).	U937	VCAM	gb A30922 A30 922	
55	HDPBQ71	Angiogenesis		Highly preferred indications include diagnosis,	AOSMC	Flt1	gb AF063657 A	

			prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (AOSMC cells are aortic smooth muscle cells).		VCAM	F063657 gb A30922 A30922
55	HDPBQ71	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The Caco-2 cell line is a human colorectal adenocarcinoma cell line available through the ATCC as cell line number HTB-37).	Caco-2	Vegf1	gb AF024710 AF024710
55	HDPBQ71	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The Daudi cell line is a human B lymphoblast cell line available through the ATCC as cell line number CCL-213).	Daudi	ICAM	gb X06990 HSI CAM1



55	HDPBQ71	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The HEK293 cell line is a human embryonal kidney epithelial cell line available through the ATCC as cell line number CRL-1573).	HEK293	Cyclooxygenase Flt1 iNOS	gb AF063657 A F063657 gb X85761 HSN OS2E3
55	HDPBQ71	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (HUVEC cells are human umbilical vein endothelial cells).	HUVEC	Flt1 TSP-1 VCAM	gb AF063657 A F063657 gb X04665 HST HROMR gb A30922 A30 922
55	HDPBQ71	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The Jurkat cell line is a human T lymphocyte cell line available through the ATCC as cell	Jurkat	Flt1 Vegf1	gb AF063657 A F063657 gb AF024710 A F024710

55	HDPBQ71	Angiogenesis	line number TIB-152). Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation."	Liver	VCAM	gb A30922 A30922
55	HDPBQ71	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (NHDF cells are normal human dermal fibroblasts).	NHDF	TSP-1 Vegf1	gb X04665 HST HROMR gb AF024710 A F024710
55	HDPBQ71	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation."	T cell	ICAM Vegf1	gb X06990 HSI CAM1 gb AF024710 A F024710
55	HDPBQ71	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation."	THP1	VCAM	gb A30922 A30922

55	HDPBQ71	Angiogenesis	and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The THP-1 cell line is a human monocyte cell line available through the ATCC as cell line number TIB-202).	U937	VCAM	gb A30922 A30922
99	HFCCQ50	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The U937 cell line is a human monocyte cell line available through the ATCC as cell line number CRL-1593.2).	TF-1	TSP-1	gb X04665 HSTHROMR

99	HFCCQ50	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The U937 cell line is a human monocyte cell line available through the ATCC as cell line number CRL-1593.2).	U937	ICAM	gb X06990 HSI CAM1
107	HFVAB79	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The U937 cell line is a human monocyte cell line available through the ATCC as cell line number CRL-1593.2).	U937	ICAM	gb X06990 HSI CAM1
132	HJACG02	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation."	Adipocytes- 3/12/01	ICAM PAI Vegf1	gb X06990 HSI CAM1 gb X12701 HSE NDPAI gb AF024710 A F024710

132	HJACG02	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (AOSMC cells are aortic smooth muscle cells).	AOSMC	VCAM	gb A30922 A30922
132	HJACG02	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The Daudi cell line is a human B lymphoblast cell line available through the ATCC as cell line number CCL-213).	Daudi	ICAM VCAM	gb X06990 HSI CAM1 gb A30922 A30922
132	HJACG02	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (HUVEC cells are human umbilical vein endothelial cells).	HUVEC	ICAM TSP-1 Vegf1	gb X06990 HSI CAM1 gb X04665 HST HROMR gb AF024710 A F024710

142	HKACD58	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (AOSMC cells are aortic smooth muscle cells).	AOSMC	VCAM Vegf1	gb A30922 A30922 gb AF024710 AF024710
142	HKACD58	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The HEK293 cell line is a human embryonal kidney epithelial cell line available through the ATCC as cell line number CRL-1573).	HEK293	TSP-1 Vegf1	gb X04665 HSTHROMR gb AF024710 AF024710
142	HKACD58	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (HUVEC cells are human umbilical vein endothelial cells).	HUVEC	ICAM	gb X06990 HSICAMI

142	HKACD58	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (NHDF cells are normal human dermal fibroblasts).	NHDF	VCAM	gb A30922 A30922
221	HNHFO29	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The U937 cell line is a human monocyte cell line available through the ATCC as cell line number CRL-1593.2).	U937	Flt1 ICAM PAI	gb AF063657 A F063657 gb X06990 HSI CAM1 gb X12701 HSE NDPAI
275	HSDSB09	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (AOSMC cells are aortic smooth muscle cells).	AOSMC	VCAM	gb A30922 A30922

275	HSDSB09	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The Caco-2 cell line is a human colorectal adenocarcinoma cell line available through the ATCC as cell line number HTB-37).	Caco-2	ICAM Vegf1	gb X06990 HSI CAM1 gb AF024710 A F024710
275	HSDSB09	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The HEK293 cell line is a human embryonal kidney epithelial cell line available through the ATCC as cell line number CRL-1573).	HEK293	Cyclooxygenase VCAM	gb A30922 A30 922
275	HSDSB09	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The HUVEC cell line is a human umbilical vein endothelial cell line available through the ATCC as cell line number CRL-1731).	HUVEC	ICAM Vegf1	gb X06990 HSI CAM1 gb AF024710 A F024710



275	HSDSB09	Angiogenesis	endothelial cells). Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The Jurkat cell line is a human T lymphocyte cell line available through the ATCC as cell line number TIB-152).	Jurkat	Flt1	gb AF063657 A F063657
275	HSDSB09	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The Molt4 cell line is a human T cell line available through the ATCC as cell line number CRL-1582).	Molt4	iNOS	gb X85761 HNS OS2E3
275	HSDSB09	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The Molt4 cell line is a human T cell line available through the ATCC as cell line number CRL-1582).	NHDF	Vegf1	gb AF024710 A F024710

275	HSDSB09	Angiogenesis	Proliferation. "(NHDF cells are normal human dermal fibroblasts). Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (SUPT cells are human T-cells).	SUPT	VCAM	gb A30922 A30922
275	HSDSB09	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The THP-1 cell line is a human monocyte cell line available through the ATCC as cell line number TIB-202).	THP1	ICAM TSP-1 VCAM Vegf1	gb X06990 HSI CAM1 gb X04665 HST HROMR gb A30922 A30922 gb AF024710 A F024710
334	HWHGZ51	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (AOSMC cells are aortic smooth muscle	AOSMC	TSP-1	gb X04665 HST HROMR

334	HWHGZ51	Angiogenesis	cells). Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The Daudi cell line is a human B lymphoblast cell line available through the ATCC as cell line number CCL-213).	Daudi	ICAM PAI	gb X06990 HSI CAM1 gb X12701 HSE NDPAI
334	HWHGZ51	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The H9 cell line is a human T lymphocyte cell line available through the ATCC as cell line number HTB-176).	H9	VCAM	gb A30922 A30 922
334	HWHGZ51	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The H9 cell line is a human T lymphocyte cell line available through the ATCC as cell line number HTB-176).	HEK293	Flt1 iNOS	gb AF063657 A F063657 gb X85761 HSN OS2E3

334	HWHGZ51	Angiogenesis	Proliferation." (The HEK293 cell line is a human embryonal kidney epithelial cell line available through the ATCC as cell line number CRL-1573). Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (HUVEC cells are human umbilical vein endothelial cells).	HUVEC	Vegf1	gb AF024710 A F024710
334	HWHGZ51	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation."	Liver	Flt1 ICAM PAI VCAM	gb AF063657 A F063657 gb X06990 HSI CAM1 gb X12701 HSE NDPAI gb A30922 A30 922
334	HWHGZ51	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The Molt4 cell line is a human T cell line	Molt4	VCAM	gb A30922 A30 922

334	HWHGZ51	Angiogenesis	available through the ATCC as cell #CRL-1582). Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (NHDF cells are normal human dermal fibroblasts).	NHDF	Vegf1	gb AF024710 A F024710
334	HWHGZ51	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The THP-1 cell line is a human monocyte cell line available through the ATCC as cell line number TIB-202).	THP1	Vegf1	gb AF024710 A F024710
334	HWHGZ51	Angiogenesis	Highly preferred indications include diagnosis, prevention, treatment, and/or amelioration of diseases and disorders involving angiogenesis, wound healing, neoplasia (particularly including, but not limited to, tumor metastases), and cardiovascular diseases and disorders; as described herein under the headings "Hyperproliferative Disorders," "Regeneration," "Anti-Angiogenesis Activity," "Diseases at the Cellular Level," and "Wound Healing and Epithelial Cell Proliferation." (The U937 cell line is a human monocyte	U937	ICAM Vegf1	gb X06990 HSI CAMI gb AF024710 A F024710

				cell line available through the ATCC as cell line number CRL-1593.2).				
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Table 2 further characterizes certain encoded polypeptides of the invention, by providing the results of comparisons to protein and protein family databases. The first column provides a unique clone identifier, "Clone ID NO:", corresponding to a cDNA clone disclosed in Table 1A and/or Table 1B. The second column provides the unique contig identifier, "Contig ID:" which allows correlation with the information in Table 1B. The third column provides the sequence identifier, "SEQ ID NO:", for the contig polynucleotide sequences. The fourth column provides the analysis method by which the homology/identity disclosed in the Table was determined. The fifth column provides a description of the PFAM/NR hit identified by each analysis. Column six provides the accession number of the PFAM/NR hit disclosed in the fifth column. Column seven, score/percent identity, provides a quality score or the percent identity, of the hit disclosed in column five. Comparisons were made between polypeptides encoded by polynucleotides of the invention and a non-redundant protein database (herein referred to as "NR"), or a database of protein families (herein referred to as "PFAM"), as described below.

The NR database, which comprises the NBRF PIR database, the NCBI GenPept database, and the SIB SwissProt and TrEMBL databases, was made non-redundant using the computer program nrdb2 (Warren Gish, Washington University in Saint Louis). Each of the polynucleotides shown in Table 1B (e.g., SEQ ID NO:X or the 'Query' sequence) was used to search against the NR database. The computer program BLASTX was used to compare a 6-frame translation of the Query sequence to the NR database (for information about the BLASTX algorithm please see Altshul et al., J. Mol. Biol. 215:403-410 (1990), and Gish and States, Nat. Genet. 3:266-272 (1993). A description of the sequence that is most similar to the Query sequence (the highest scoring 'Subject') is shown in column five of Table 2 and the database accession number for that sequence is provided in column six. The highest scoring 'Subject' is reported in Table 2 if (a) the estimated probability that the match occurred by chance alone is less than  $1.0 \times 10^{-7}$ , and (b) the match was not to a known repetitive element. BLASTX returns alignments of short polypeptide segments of the Query and Subject sequences which share a high degree of similarity; these segments are known as High-Scoring Segment Pairs or HSPs. Table 2 reports the degree of similarity between the Query and the Subject for each HSP as a percent identity in Column 7. The percent identity is determined by dividing the number of exact matches between the two aligned sequences in the HSP, dividing by the number of Query amino acids in the HSP and multiplying by 100. The polynucleotides of SEQ ID NO:X which encode the polypeptide sequence that generates an HSP are delineated by columns 8 and 9 of Table 2.

The PFAM database, PFAM version 2.1, (Sonnhammer, Nucl. Acids Res., 26:320-322, 1998)) consists of a series of multiple sequence alignments; one alignment for each protein family. Each multiple sequence alignment is converted into a probability model called a Hidden

Markov Model, or HMM, that represents the position-specific variation among the sequences that make up the multiple sequence alignment (see, e.g., Durbin, et al., *Biological sequence analysis: probabilistic models of proteins and nucleic acids*, Cambridge University Press, 1998 for the theory of HMMs). The program HMMER version 1.8 (Sean Eddy, Washington University in Saint Louis) was used to compare the predicted protein sequence for each Query sequence (SEQ ID NO:Y in Table 1B) to each of the HMMs derived from PFAM version 2.1. A HMM derived from PFAM version 2.1 was said to be a significant match to a polypeptide of the invention if the score returned by HMMER 1.8 was greater than 0.8 times the HMMER 1.8 score obtained with the most distantly related known member of that protein family. The description of the PFAM family which shares a significant match with a polypeptide of the invention is listed in column 5 of Table 2, and the database accession number of the PFAM hit is provided in column 6. Column 7 provides the score returned by HMMER version 1.8 for the alignment. Columns 8 and 9 delineate the polynucleotides of SEQ ID NO:X which encode the polypeptide sequence which show a significant match to a PFAM protein family.

As mentioned, columns 8 and 9 in Table 2, "NT From" and "NT To", delineate the polynucleotides of "SEQ ID NO:X" that encode a polypeptide having a significant match to the PFAM/NR database as disclosed in the fifth column. In one embodiment, the invention provides a protein comprising, or alternatively consisting of, a polypeptide encoded by the polynucleotides of SEQ ID NO:X delineated in columns 8 and 9 of Table 2. Also provided are polynucleotides encoding such proteins, and the complementary strand thereto.

The nucleotide sequence SEQ ID NO:X and the translated SEQ ID NO:Y are sufficiently accurate and otherwise suitable for a variety of uses well known in the art and described further below. For instance, the nucleotide sequences of SEQ ID NO:X are useful for designing nucleic acid hybridization probes that will detect nucleic acid sequences contained in SEQ ID NO:X or the cDNA contained in ATCC Deposit No:Z. These probes will also hybridize to nucleic acid molecules in biological samples, thereby enabling immediate applications in chromosome mapping, linkage analysis, tissue identification and/or typing, and a variety of forensic and diagnostic methods of the invention. Similarly, polypeptides identified from SEQ ID NO:Y may be used to generate antibodies which bind specifically to these polypeptides, or fragments thereof, and/or to the polypeptides encoded by the cDNA clones identified in, for example, Table 1A and/or 1B.

Nevertheless, DNA sequences generated by sequencing reactions can contain sequencing errors. The errors exist as misidentified nucleotides, or as insertions or deletions of nucleotides in the generated DNA sequence. The erroneously inserted or deleted nucleotides cause frame shifts in the reading frames of the predicted amino acid sequence. In these cases, the predicted amino acid sequence diverges from the actual amino acid sequence, even though the



generated DNA sequence may be greater than 99.9% identical to the actual DNA sequence (for example, one base insertion or deletion in an open reading frame of over 1000 bases).

Accordingly, for those applications requiring precision in the nucleotide sequence or the amino acid sequence, the present invention provides not only the generated nucleotide sequence identified as SEQ ID NO:X, and a predicted translated amino acid sequence identified as SEQ ID NO:Y, but also a sample of plasmid DNA containing cDNA ATCC Deposit No:Z (e.g., as set forth in columns 2 and 3 of Table 1A and/or as set forth, for example, in Table 1B, 6, and 7). The nucleotide sequence of each deposited clone can readily be determined by sequencing the deposited clone in accordance with known methods. Further, techniques known in the art can be used to verify the nucleotide sequences of SEQ ID NO:X. The predicted amino acid sequence can then be verified from such deposits. Moreover, the amino acid sequence of the protein encoded by a particular clone can also be directly determined by peptide sequencing or by expressing the protein in a suitable host cell containing the deposited human cDNA, collecting the protein, and determining its sequence.

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Table 2

cDNA Clone ID	Contig ID:	SEQ ID NO:X	Analysis Method	PFam/NR Description	PFam/NR Accession Number	Score/Percent Identity	NT From	NT To
H2CBU83	884134	11	WUblastx .64	(Q9NYD1) G-PROTEIN-COUPLED RECEPTOR 48.	Q9NYD1	100%	10	777
H2CBU83	745366	348	WUblastx .64	(Q9NYD1) G-PROTEIN-COUPLED RECEPTOR 48.	Q9NYD1	98% 44% 100%	291 151 10	776 204 297
HACBD91	637482	14	WUblastx .64	NADH dehydrogenase (ubiquinone) (EC 1.6.5.3) chain NDUFB4 - human	pir JE0383 JE0383	100% 95%	211 1306	357 1368
HAGAQ26	561996	15	WUblastx .64	(Q9UKG4) NA+/SULFATE COTRANSPORTER SUT-1.	Q9UKG4	99% 93%	414 2	1001 433
HAGBZ81	456414	16	WUblastx .64	(Q9H291) JUNCTATE.	Q9H291	85% 77%	183 26	329 199
HAGDG59	534165	17	HMMER 2.1.1	PFAM: short chain dehydrogenase	PF00106	182.2	232	795
			WUblastx .64	(Q9UKU4) RETINAL SHORT-CHAIN DEHYDROGENASE/REDUCTASE RETSDR2.	Q9UKU4	100%	124	1023
HAJAN23	1352364	23	WUblastx .64	(Q9HCC0) NON-BIOTIN CONTAINING	Q9HCC0	100%	109	1797

HAJAN23	872551	350	HMMER 2.1.1	SUBUNIT OF 3-METHYLCROTONYL-COA CARBOX	PF01039	126.6	294	617
			WUblastx .64	(Q9HCC0) NON-BIOTIN CONTAINING SUBUNIT OF 3-METHYLCROTONYL-COA CARBOX	Q9HCC0	91% 96%	120 557	665 1807
HABR69	638516	24	WUblastx .64	(Q9JIG5) UBIQUITIN SPECIFIC PROTEASE (FRAGMENT).	Q9JIG5	69%	677	48
HAMFE15	905695	25	HMMER 2.1.1	PFAM: Diacylglycerol kinase catalytic domain (presumed)	PF00781	22.9	1807	1956
			WUblastx .64	(Q9NP48) PUTATIVE LIPID KINASE (CDNA FLJ10842 FIS, CLONE NT2RP4001343	Q9NP48	93%	1495	2757
HAMFE15	823350	351	WUblastx .64	(Q9NP48) PUTATIVE LIPID KINASE (CDNA FLJ10842 FIS, CLONE NT2RP4001343	Q9NP48	93%	1503	2756
HAMGG68	731859	26	WUblastx .64	(Q9NX85) CDNA FLJ20378 FIS, CLONE KAIA0536.	Q9NX85	71% 44% 57% 70% 56% 64%	984 1454 1457 1458 726 857	859 1401 1416 1429 658 636

HAMGR28	892971	27	WUblastx .64	(AAH07438) Similar to RIKEN cDNA 2610511E22 gene.	AAH07438	100%	59	823
HAMGR28	748223	352	WUblastx .64	(AAH07438) Similar to RIKEN cDNA 2610511E22 gene.	AAH07438	100% 100%	569 1	766 567
HAPOM49	769555	28	WUblastx .64	(Q9BZM1) GROUP XII SECRETED PHOSPHOLIPASE A2.	Q9BZM1	99%	251	817
HAPOM49	722386	353	WUblastx .64	(Q9BZM1) GROUP XII SECRETED PHOSPHOLIPASE A2.	Q9BZM1	100% 100%	251 454	451 816
HAPPW30	1352278	29	WUblastx .64	(Q8WUJ1) Hypothetical 28.7 kDa protein.	Q8WUJ1	100%	59	850
HAPPW30	684272	354	WUblastx .64	(Q8WUJ1) Hypothetical 28.7 kDa protein.	Q8WUJ1	100% 36% 100%	54 982 266	263 1056 844
HATBR65	635514	30	WUblastx .64	(Q96NR6) CDNA FLJ30278 fis, clone BRACE2002755.	Q96NR6	42% 64%	750 617	806 751
HAUAI83	639009	33	WUblastx .64	(BAB27250) 13 days embryo liver cDNA, RIKEN full-le	BAB27250	88% 90% 100%	160 25 489	399 84 557
HAUAI83	383592	355	WUblastx .64	(BAB27250) 13 days embryo liver cDNA, RIKEN full-le	BAB27250	100%	406	723
HGBA69	1352289	35	WUblastx .64	(Q8WV8) Hypothetical 22.4 kDa protein (Fragment).	Q8WV8	100%	220	843
HGBA69	709658	356	WUblastx	(Q8WV8) Hypothetical	Q8WV8	78%	158	226

				.64	22.4 kDa protein (Fragment).		100%	211	780
HBIAE26	514418	36		WUblastx .64	(AAK55521) PRO0764.	AAK55521	83% 65%	1009 983	974 744
HBINS58	1352386	37		WUblastx .64	(Q9D6W7) 2310047N01RIK PROTEIN.	Q9D6W7	81%	57	578
HBINS58	961712	357		WUblastx .64	(Q9D6W7) 2310047N01RIK PROTEIN.	Q9D6W7	80%	71	589
HBINS58	892924	358		WUblastx .64	(Q9D6W7) 2310047N01RIK PROTEIN.	Q9D6W7	79%	100	579
HBJNC59	1125802	38		WUblastx .64	complement subcomponent C1q chain A precursor [validated] - human	pir S14350 C1HUQA	100%	66	800
HBJNC59	899397	359		HMMER 2.1.1	PFAM: Collagen triple helix repeat (20 copies) (Q9H2L7) DC33.	PF01391	30.1	144	245
				WUblastx .64		Q9H2L7	79%	77	907
HBJNC59	902207	360		HMMER 2.1.1	PFAM: C1q domain	PF00386	250.2	409	786
				WUblastx .64	complement subcomponent C1q chain A precursor [validated] - human	pir S14350 C1HUQA	100%	64	798
HBOEG69	793786	40		WUblastx .64	(Q9NS11) LIPOPOLYSACCHARID E SPECIFIC RESPONSE-	Q9NS11	71% 100%	424 345	314 196

HCACU58	625923	41	WUblastx .64	68 PROTEIN. (Q9NX85) CDNA FLJ20378 FIS, CLONE KAIA0536.	Q9NX85	69%	548	820
HCE2F54	634016	42	HMMER 2.1.1	PFAM: Histone-like transcription factor (CBF/NF-Y) and archaeal histone	PF00808	19	868	1005
			WUblastx .64	(AAH07642) Unknown (protein for IMAGE:3534358) (Fra	AAH07642	82%	298	1122
HCE3G69	728432	43	WUblastx .64	(Q9H0K7) HYPOTHETICAL 12.4 KDA PROTEIN (UNKNOWN) (PROTEIN FOR MGC:303	Q9H0K7	100%	1294	1647
HCE3G69	494346	361	WUblastx .64	(Q9H0K7) HYPOTHETICAL 12.4 KDA PROTEIN (UNKNOWN) (PROTEIN FOR MGC:303	Q9H0K7	100%	1295	1648
HCE5F43	612796	44	WUblastx .64	(Q9H8M7) CDNA FLJ13397 FIS, CLONE PLACE1001351.	Q9H8M7	100% 100%	9 56	53 928
HCEFB80	1143407	45	WUblastx .64	(Q96FR3) Unknown (protein for MGC:18083).	Q96FR3	100%	1785	1979
HCEFB80	1046853	362	WUblastx .64	(Q96FR3) Unknown (protein for MGC:18083).	Q96FR3	100%	1777	1971

HCEWE20	543370	47	WUblastx .64	(Q9P1J1) PRO1546.	Q9P1J1	76% 79%	501 601	551 717
HCGMD59	636078	49	WUblastx .64	catalase (EC 1.11.1.6) - Campylobacter jejuni	pir 40767 40767	97%	296	186
HCHNF25	1352270	50	WUblastx .64	(AAL76113) Androgen- induced basic leucine zipper.	AAL76113	99% 64% 24%	3069 3371 622	2188 2811 425
HCHNF25	658672	363	WUblastx .64	(AAH00499) Jumping translocation breakpoint.	AAH00499	91%	180	620
HCNDR47	1016919	51	WUblastx .64	(BAB84904) FLJ00149 protein (Fragment).	BAB84904	93% 42%	969 180	1154 263
HCNDR47	863677	364	WUblastx .64	(Q24333) ELASTIN LIKE PROTEIN (FRAGMENT).	Q24333	57%	42	197
HCNDR47	874128	365	WUblastx .64	(BAB84904) FLJ00149 protein (Fragment).	BAB84904	93%	148	333
HCNSM70	637547	53	HMMER 2.1.1	PFAM: Immunoglobulin domain	PF00047	32	224	481
			WUblastx .64	(O60487) EPITHELIAL V-LIKE ANTIGEN PRECURSOR (EPITHELIAL V-LIKE ANTIG	O60487	98%	107	751
HCNSM70	589445	366	WUblastx .64	(O60487) EPITHELIAL V-LIKE ANTIGEN PRECURSOR (EPITHELIAL V-LIKE ANTIG	O60487	100% 99%	161 408	409 806
HCUCK44	720291	54	WUblastx .64	hypothetical protein DKFZp564J157.1 -	pir T34520 T34520	97%	21	524

HCUEO60	499242	55	WUblastx .64	human (fragment) (Q96MM0) CDNA FLJ32172 fis, clone PLACE6000555.	Q96MM0	79% 72%	1043 1222	972 1028
HCUHK65	651313	56	WUblastx .64	(Q9H3W5) HYPOTHETICAL 79.4 KDA PROTEIN.	Q9H3W5	100%	11	316
HCUHK65	880178	367	HMMER 2.1.1	PFAM: Leucine Rich Repeat	PF00560	92.1	1190	1261
			WUblastx .64	(Q9H3W5) HYPOTHETICAL 79.4 KDA PROTEIN.	Q9H3W5	100%	770	2893
HCWDS72	707833	58	WUblastx .64	conserved hypothetical protein PA1527 [imported] - Pseudomonas aeruginosa (strain PAO1)	pir D83454 D83454	77%	318	4
HCWGU37	1042325	59	WUblastx .64	(O60448) NEURONAL THREAD PROTEIN AD7C-NTP.	O60448	43% 75% 63% 65%	2724 2373 2776 2758	2371 2326 2447 2579
HCWK15	553621	60	WUblastx .64	(Q9NX85) CDNA FLJ20378 FIS, CLONE KAIA0536.	Q9NX85	77% 56% 63%	538 710 708	419 663 532
HDHEB60	499233	62	WUblastx .64	(Q9Y5Y5) PEROXISOMAL BIOGENESIS FACTOR 16.	Q9Y5Y5	81%	277	1284
HDLAC10	692299	63	WUblastx .64	(Q9UBJ4) TRANSPPOSASE-LIKE PROTEIN.	Q9UBJ4	99%	29	1378



HDPBA28	1062783	64	WUblastx .64	(Q9UKY2) ADIPOCYTE-DERIVED LEUCINE AMINOPEPTIDASE.	Q9UKY2	99%	259	3081
HDPBA28	866429	369	HMMER 2.1.1	PFAM: Peptidase family M1	PF01433	613.6	228	1391
			WUblastx .64	(Q9UKY2) ADIPOCYTE-DERIVED LEUCINE AMINOPEPTIDASE.	Q9UKY2	99%	69	2891
HDPBQ71	1160316	65	WUblastx .64	(Q9BRE2) HYPOTHETICAL 68.4 KDA PROTEIN (FRAGMENT).	Q9BRE2	100%	90	1928
HDPBQ71	727200	370	WUblastx .64	(Q9BRE2) HYPOTHETICAL 68.4 KDA PROTEIN (FRAGMENT).	Q9BRE2	99%	21	1859
HDPBQ71	886067	371	WUblastx .64	(Q9H2V9) CDA08.	Q9H2V9	100% 65% 44% 21% 93%	1532 169 182 1456 186	1999 264 322 1551 1541
HDPCL63	1019008	66	WUblastx .64	(Q9Y519) HYPOTHETICAL 42.3 KDA PROTEIN.	Q9Y519	99%	14	835
HDPCL63	847045	372	WUblastx .64	(Q9Y519) HYPOTHETICAL 42.3 KDA PROTEIN.	Q9Y519	97%	2	730
HDPFF39	588697	68	WUblastx	(O96005) CLEFT LIP	O96005	100%	3	29

					.64	AND PALATE TRANSMEMBRANE PROTEIN 1.		100%	97	762
HDPGT01	771583	71	WUblastx .64	(Q9Y2B3) LCAT-LIKE PROTEIN (LLPL).	Q9Y2B3		100%	8 264	262 1244	
HDPJM30	879325	73	WUblastx .64	(O94759) LONG TRANSIENT RECEPTOR POTENTIAL CHANNEL 2 (LTRPC	TRL2_HUMAN		99%	17	1633	
HDPJM30	603517	374	WUblastx .64	(O94759) LONG TRANSIENT RECEPTOR POTENTIAL CHANNEL 2 (LTRPC	TRL2_HUMAN		89% 96% 98%	416 378 1	1312 530 378	
HDPMM88	972734	74	HMMER 2.1.1	PFAM: E1-E2 ATPase	PF00122		31	475	543	
			WUblastx .64	(P98198) POTENTIAL PHOSPHOLIPID- TRANSPORTING ATPASE ID (EC	AT1D_HUMAN		68% 32%	106 2917	2907 2991	
HDPMM88	906121	375	WUblastx .64	(Q96NQ7) CDNA FLJ30324 fis, clone BRACE2007138, weakly similar to PRO	Q96NQ7		50% 76%	356 3	403 365	
HDPMM88	902299	376	WUblastx .64	(P98199) POTENTIAL PHOSPHOLIPID- TRANSPORTING ATPASE ID (EC	AT1D_MOUSE		73%	2	172	
HDPMM88	885059	377	WUblastx	(AAH07837) Unknown	AAH07837		75%	63	16	

				.64	(protein for IMAGE:4111596) (Fra			69%	598	62
HDPMM88	874074	378	WUblastx .64	(P98198) POTENTIAL PHOSPHOLIPID- TRANSPORTING ATPASE ID (EC	AT1D_HUMAN	65%	1023			1
HDPNC61	637585	75	WUblastx .64	(Q8WY51) HC6.	Q8WY51	52% 64%	654 37			827 78
HDPOJ08	731863	76	WUblastx .64	(Q9H7X1) CDNA FLJ14153 FIS, CLONE NT2RM1000092, WEAKLY SIMILAR TO MUL	Q9H7X1	84% 30% 99%	524 315 12			904 479 524
HDPOZ56	1352319	77	WUblastx .64	(BAB84923) FLJ00168 protein (Fragment).	BAB84923	100%	28			1791
HDPOZ56	815653	381	HMMER 2.1.1	PFAM: Flavin containing amine oxidase	PF01593	431.1	307			1614
			WUblastx .64	(BAB84923) FLJ00168 protein (Fragment).	BAB84923	99%	40			1800
HDPOZ56	743479	382	HMMER 2.1.1	PFAM: Flavin containing amine oxidase	PF01593	185.2	200			949
			WUblastx .64	(BAB84923) FLJ00168 protein (Fragment).	BAB84923	98% 99% 100%	197 952 2			958 1647 202
HDPPN86	1037893	78	WUblastx .64	(Q9BVN4) HYPOTHETICAL 59.4 KDA PROTEIN.	Q9BVN4	77% 100% 97% 42% 47% 98%	5063 919 1942 4835 4983 4611			5194 1308 2175 4891 5045 4799

HDPPN86	895711	383	WUblastx .64	(Q9BVN4) HYPOTHETICAL 59.4 KDA PROTEIN.	Q9BVN4	98%	909	1817
HDPSB18	1043263	79	WUblastx .64	(Q9NX17) CDNA FLJ20489 FIS, CLONE KAT08285.	Q9NX17	66% 46%	3407 2573	3150 2478
HDPSB18	732097	386	WUblastx .64	(Q9NX17) CDNA FLJ20489 FIS, CLONE KAT08285.	Q9NX17	41% 66%	863 813	789 556
HDPSH53	1309174	80	WUblastx .64	(Q9EPY0) CASPASE RECRUITMENT DOMAIN PROTEIN 9.	Q9EPY0	59% 88%	262 1023	456 1184
HDPSH53	1040056	387	WUblastx .64	(Q9H257) CASPASE RECRUITMENT DOMAIN PROTEIN 9.	Q9H257	100% 92% 25% 100%	1131 301 1518 1010	1184 423 1610 1129
HDPSH53	882768	388	WUblastx .64	(AAH08877) Caspase recruitment domain protein 9.	AAH08877	98%	316	480
HDPSP01	1352280	81	WUblastx .64	(Q9BR97) UNKNOWN (PROTEIN FOR MGC:10763).	Q9BR97	93% 94% 41%	1671 184 2196	1718 1674 2276
HDPSP01	689129	389	WUblastx .64	(Q9BR97) UNKNOWN (PROTEIN FOR MGC:10763).	Q9BR97	90% 98% 100%	227 1078 1664	1114 1668 1744
HDPSP54	744440	82	WUblastx .64	(BAB85063) CDNA FLJ23790 fis, clone HEP21466.	BAB85063	99%	2	307
HDPTD15	692917	83	WUblastx .64	(Q9BU29) UNKNOWN (PROTEIN FOR	Q9BU29	97%	937	833

HDPW68	812737	84	HMMER 2.1.1	IMAGE:3954899) (FRAGMENT).	PF00047		38.9	844	1005
			WUblastx .64	(Q9Y286) QA79 MEMBRANE PROTEIN, ALLELIC VARIANT AIRM-1B PRECURSOR.	Q9Y286		100%	40	1440
HDPWN93	992925	85	WUblastx .64	(AAH25255) Similar to hypothetical protein FLJ21347	AAH25255		99%	45	2450
HDPWN93	887914	391	WUblastx .64	(AAH25255) Similar to hypothetical protein FLJ21347	AAH25255		97% 68%	35 619	661 714
HDPWN93	905983	392	WUblastx .64	(Q9H747) CDNA: FLJ21347 FIS, CLONE COL02724.	Q9H747		68% 99%	27 205	155 2487
HDPXY01	879048	86	WUblastx .64	hypothetical protein DKFZp434A139.1 - human (fragments)	pir T43490 T43490		93%	3	743
HDPXY01	904768	393	WUblastx .64	hypothetical protein DKFZp434A139.1 - human (fragments)	pir T43490 T43490		97%	10	921
HDPXY01	895715	395	WUblastx .64	(O93251) ALPHA 1 TYPE I COLLAGEN.	O93251		29% 35%	643 268	1419 447
HDTBD53	972757	87	WUblastx .64	(Q9BTV4) UNKNOWN (PROTEIN FOR MGC:3222).	Q9BTV4		100%	183	1382
HDTBD53	906342	396	WUblastx .64	(Q9BTV4) UNKNOWN (PROTEIN FOR	Q9BTV4		99%	187	1386

HDTBV77	785879	88	WUblastx .64	MGC:3222). (Q9BT94) UNKNOWN (PROTEIN FOR MGC:10848).	Q9BT94		99% 69%	65 2131	2137 2169
HDTDQ23	1306984	89	WUblastx .64	calcium-binding protein (clone pMP41) - mouse (fragment)	pir S04970 S04970		100%	1611	1709
HDTDQ23	879009	397	WUblastx .64	calcium-binding protein (clone pMP41) - mouse (fragment)	pir S04970 S04970		100%	1623	1721
HDTDQ23	751707	398	WUblastx .64	calcium-binding protein (clone pMP41) - mouse (fragment)	pir S04970 S04970		100%	1623	1721
HE2DE47	619852	90	WUblastx .64	(Q9NZN8) NOT2P (CCR4-NOT TRANSCRIPTION COMPLEX, SUBUNIT 2).	Q9NZN8		99%	808	2427
HE2NV57	740750	92	WUblastx .64	(Q9UGV6) BK445C9.3 (HIGH-MOBILITY GROUP (NONHISTONE CHROMOSOMAL) PROT	Q9UGV6		31% 66%	321 71	866 106
HE2PH36	570903	93	WUblastx .64	(AAH07609) Similar to hypothetical protein PRO1722.	AAH07609		56% 90% 68%	1359 1524 1484	1285 1492 1353
HE8DS15	847060	94	WUblastx .64	(Q9WVT0) SEVEN TRANSMEMBRANE RECEPTOR.	Q9WVT0		80% 24% 87%	1 48 269	270 146 985
HE9DG49	1299935	96	WUblastx	(Q9NYL4) FK506	Q9NYL4		100%	70	672

HE9DG49	658678	400	.64 HMMER 2.1.1	BINDING PROTEIN PRECURSOR. PFAM: FKBP-type peptidyl-prolyl cis-trans isomerases	PF00254	91	211	492
			WUblastx .64	(Q9NYL4) FK506 BINDING PROTEIN PRECURSOR.	Q9NYL4	100%	70	672
HE9DG49	382000	401	HMMER 2.1.1	PFAM: FKBP-type peptidyl-prolyl cis-trans isomerases	PF00254	91	-71	-352
			WUblastx .64	(Q9NYL4) FK506 BINDING PROTEIN PRECURSOR.	Q9NYL4	100% 86%	578 78	679 674
HEBEJ18	701802	98	WUblastx .64	(AAH00573) HSPC163 protein.	AAH00573	100%	51	467
HEEAQ11	777843	99	HMMER 2.1.1	PFAM: Cystatin domain	PF00031	39.7	360	638
			WUblastx .64	(Q9H4G1) BA218C14.1 (NOVEL CYSTATIN FAMILY MEMBER).	Q9H4G1	100%	213	653
HEGAH43	532596	100	WUblastx .64	(Q9H1M5) BA530N10.1 (NOVEL PROTEIN).	Q9H1M5	100%	29	361
HELHD85	847372	101	WUblastx .64	(Q9N083) UNNAMED PORTEIN PRODUCT.	Q9N083	52% 53% 67%	1715 1648 1881	1653 1559 1705
HEOMQ63	603533	102	WUblastx .64	(Q9BQM3) DJ842G6.1.1 (NOVEL PROTEIN) (FRAGMENT).	Q9BQM3	100% 100% 99%	1036 592 635	1293 639 937
HEPAA46	596830	103	WUblastx	(Q96PH6) ESC42.	Q96PH6	100%	18	386

HFABG18	847073	105	.64	WUblastx .64	(Q9QZE9) TM6P1.	Q9QZE9			95% 88%	53 237	253 797
HFABH95	566712	106	.64	WUblastx .64	(Q9QZH5) PUTATIVE PHOSPHATE/PHOSPHO ENOLPYRUVATE TRANSLATOR.	Q9QZH5			88% 65%	513 9	944 77
HFAEF57	534142	107	.64	WUblastx .64	(Q9HBN2) HYPOTHETICAL 15.8 KDA PROTEIN.	Q9HBN2			47%	601	425
HFCCQ50	579993	109		HMMER 2.1.1	PFAM: Galactosyltransferase	PF01762			130.8	365	1042
			.64	WUblastx .64	(Q9C0J1) BETA-1,3-N- ACETYLGUCOSAMIN YLTRANSFERASE BGN-T4.	Q9C0J1			95%	35	1102
HFCEB37	411345	110	.64	WUblastx .64	(Q9NYC6) NEURONAL SPECIFIC TRANSCRIPTION FACTOR DAT1.	Q9NYC6			94%	4	204
HFFAL36	560639	112	.64	WUblastx .64	(O75525) T-STAR.	O75525			100%	568	657
HFGAD82	513669	113	.64	WUblastx .64	membrane glycoprotein M6 - mouse	pir I78556 I78556			92%	249	410
HFIUR10	532060	114	.64	WUblastx .64	(AAK55521) PRO0764.	AAK55521			47% 75%	369 497	307 411
HFTBM50	545012	115	.64	WUblastx .64	(Q9H8P0) CDNA FLJ13352 FIS, CLONE OVARC1002165, WEAKLY SIMILAR TO	Q9H8P0			100% 91%	23 198	229 524



HFVAB79	1300736	117	WUblastx .64	3-O (Q9BX93) GROUP XIII SECRETED PHOSPHOLIPASE A2.	Q9BX93	100%	133	714
HFVAB79	565076	403	WUblastx .64	(Q9BX93) GROUP XIII SECRETED PHOSPHOLIPASE A2.	Q9BX93	100%	139	720
HFXJX44	701988	121	WUblastx .64	(Q9N083) UNNAMED PORTEIN PRODUCT.	Q9N083	57%	1378	1082
HFXKJ03	505207	122	WUblastx .64	(O62658) LINE-1 ELEMENT ORF2.	O62658	34% 36%	492 920	292 525
HFXKT05	658690	123	WUblastx .64	(Q9H5H7) CDNA: FLJ23425 FIS, CLONE HEP22862.	Q9H5H7	81%	5	1015
HGBHI35	570262	124	HMMER 2.1.1	PFAM: Enoyl-CoA hydratase/isomerase family	PF00378	184.6	213	722
			WUblastx .64	(AAH25104) Similar to RIKEN cDNA 1300017C12 gene.	AAH25104	91%	225	962
HGBIB74	837220	125	WUblastx .64	hypothetical protein ZK858.6 - Caenorhabditis elegans	pir T28058 T28058	50% 51% 65% 62%	1387 2 482 723	1494 439 730 1403
HGBIB74	838602	405	WUblastx .64	(Q9V3N6) BG:DS00797.1 PROTEIN.	Q9V3N6	65% 82% 81% 27% 57%	736 537 1251 223 61	1257 740 1505 537 474
HGBIB74	899864	406	WUblastx	(Q9V3N6)	Q9V3N6	71%	12	950



















								100%	744	866
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HJABB94	456466	141	WUblastx .64	(Q9BWV3) PROTEIN KINASE NYD-SP15.	Q9BWV3	100%	8 1127 1227	250 1192 1523
HJACG02	1307789	142	WUblastx .64	(Q9HD89) CYSTEINE- RICH SECRETED PROTEIN (C/EBP- EPSILON REGULATED MYEL	Q9HD89	100%	66	389
HJACG02	509948	411	WUblastx .64	(Q9HD89) CYSTEINE- RICH SECRETED PROTEIN (C/EBP- EPSILON REGULATED MYEL	Q9HD89	100%	47	370
HJACG30	895505	143	WUblastx .64	(Q9UM21) UDP- GLCNAC:A-1,3-D- MANNOSIDE B-1,4-N- ACETYLGLUCOSAMIN YLTRANS	Q9UM21	96%	291	389
HJACG30	774300	413	WUblastx .64	(Q9D399) 6330415B21RIK PROTEIN.	Q9D399	80%	220	297
HJBCY35	719729	144	WUblastx .64	hypothetical protein DKFZp586J0619.1 - human (fragment)	pir T08758 T08758	100%	1	1212
HJMBM38	545752	146	WUblastx .64	(Q9CS66) 5730496N17RIK PROTEIN (FRAGMENT).	Q9CS66	83%	3	722
HJPAD75	651337	147	WUblastx .64	(Q9H5F8) CDNA: FLJ23476 FIS, CLONE	Q9H5F8	98%	8	232



HJPCP42	852573	415	WUblastx .64	HSII14935. (Q9VL06) CG5604 PROTEIN.	Q9VL06	54%	19	315
HJPCP42	824612	416	WUblastx .64	cut1 protein - fission yeast (Schizosaccharomyces pombe)	pir A35694 A35694	42%	7	201
HKABZ65	862030	150	WUblastx .64	(Q96LB9) Peptidoglycan recognition protein-I- alpha precursor.	Q96LB9	99% 45%	77 137	802 541
HKABZ65	665424	417	WUblastx .64	(Q96LB9) Peptidoglycan recognition protein-I- alpha precursor.	Q96LB9	99% 45%	69 129	794 533
HKACB56	554616	151	HMMER 2.1.1	PFAM: Kazal-type serine protease inhibitor domain	PF00050	76.3	114	266
			WUblastx .64	(P01001) ACROSIN INHIBITORS IIA AND IIB (BUSI-II).	IAC2_BOVIN	82%	96	266
HKACD58	1352202	152	WUblastx .64	(Q96BH2) Hypothetical 34.4 kDa protein.	Q96BH2	86% 28% 100%	786 46 125	1199 186 715
HKACD58	552465	418	WUblastx .64	(Q96BH2) Hypothetical 34.4 kDa protein.	Q96BH2	86% 28% 88%	795 43 122	1208 183 724
HKAEV06	1352263	154	WUblastx .64	(Q9NVA4) CDNA FLJ10846 FIS, CLONE NT2RP4001373.	Q9NVA4	99%	501	1814
HKAEV06	638238	419	WUblastx .64	(Q9NVA4) CDNA FLJ10846 FIS, CLONE NT2RP4001373.	Q9NVA4	96% 100% 96%	367 197 480	459 367 1541
HKAFT66	946512	155	WUblastx	(Q9CPS2)	Q9CPS2	72%	29	61

				.64	4933428I03RIK PROTEIN.			64% 84%	61 274	231 828
HKAFT66	889258	420		WUblastx .64	(Q9CPS2) 4933428I03RIK PROTEIN.	Q9CPS2		72% 64% 83%	29 61 274	61 231 828
HKAFT66	904790	421		WUblastx .64	(Q9CPS2) 4933428I03RIK PROTEIN.	Q9CPS2		80% 84%	298 12	555 314
HKB1E57	876571	156		HMMER 2.1.1	PFAM: Uncharacterized protein family UPF0004	PF00919		320.5	178	843
				WUblastx .64	(Q9BWZ5) DJI187J4.4 (CGI-05 PROTEIN (LOC51654) SIMILAR TO RAT CDK5 AC	Q9BWZ5		99%	1	879
HKB1E57	654871	422		WUblastx .64	(Q9BVG6) SIMILAR TO CGI-05 PROTEIN.	Q9BVG6		90%	78	167
HKFBC53	1352286	157		WUblastx .64	hypothetical protein F16H11.1 - Caenorhabditis elegans	pir T16084 T16084		39%	46	1410
HKFBC53	701893	423		WUblastx .64	hypothetical protein F16H11.1 - Caenorhabditis elegans	pir T16084 T16084		45% 59% 50% 37% 37%	132 11 82 566 293	305 106 129 673 1366
HKFBC53	513190	424		WUblastx .64	hypothetical protein F16H11.1 - Caenorhabditis elegans	pir T16084 T16084		35%	135	902
HKFBC53	383426	425		WUblastx .64	hypothetical protein F16H11.1 - Caenorhabditis elegans	pir T16084 T16084		38% 32%	704 135	949 713

HKGDL36	877489	158	WUblastx .64	(Q9UHG2) PROSAAS PRECURSOR (GRANIN- LIKE NEUROENDOCRINE PEPTIDE PRECUR	Q9UHG2	99%	53	832
HKGDL36	704088	426	WUblastx .64	(Q9UHG2) PROSAAS PRECURSOR (GRANIN- LIKE NEUROENDOCRINE PEPTIDE PRECUR	Q9UHG2	82% 49%	99 55	830 555
HKISB57	625956	159	WUblastx .64	(Q8WVW1) Smoothelin- B3.	Q8WVW1	28% 100% 98% 27% 26% 44%	262 201 1107 271 532 954	582 1013 1256 480 966 1052
HKMLM11	514788	160	WUblastx .64	(Q9P059) HSPC323 (FRAGMENT).	Q9P059	71% 85%	332 148	562 462
HKMLP68	1037919	161	WUblastx .64	(Q8VD01) Hypothetical 61.8 kDa protein.	Q8VD01	49%	8	586
HKMLP68	880047	427	WUblastx .64	(Q8VD01) Hypothetical 61.8 kDa protein.	Q8VD01	49%	31	609
HKMMW74	581399	163	WUblastx .64	(Q8WY51) HC6.	Q8WY51	73%	1784	1662
HKMND01	527402	164	WUblastx .64	(Q9H3C0) PRO0898.	Q9H3C0	83%	867	757
HLDBE54	836041	165	WUblastx .64	(Q9NR71) MITOCHONDRIAL CERAMIDASE.	Q9NR71	98%	212	1051
HLDBE54	600362	429	WUblastx	(Q9IHE3) NERUTAL	Q9IHE3	45%	332	397

				.64	CERAMIDASE (NEUTRAL CERAMIDASE).		72%	130	306
HLD BE54	800678	430	HMMER 2.1.1		PFAM: Renal dipeptidase	PF01244	78%	375	1028
			WUblastx .64		(Q9H4A9) PUTATIVE DIPEPTIDASE.	Q9H4A9	100%	133	1590
HLD BX13	815665	166	WUblastx .64		(Q9H387) PRO2550.	Q9H387	76% 60%	1764 1815	1681 1756
HLD QC46	847397	168	WUblastx .64		(Q9BXXJ8) TRANSMEMBRANE PROTEIN INDUCED BY TUMOR NECROSIS FACTOR ALPHA	Q9BXXJ8	100%	28	423
HLD QR62	753742	169	WUblastx .64		(Q9NQW2) PROGRESSIVE ANKYLOSIS-LIKE PROTEIN.	Q9NQW2	100% 99%	41 376	382 1002
HLD QU79	740755	170	WUblastx .64		(O75477) KE04P.	O75477	100%	105	1142
HLD RM43	846330	171	WUblastx .64		(Q96NZ9) Proline-rich acidic protein.	Q96NZ9	100%	24	476
HLD RM43	638939	431	WUblastx .64		(Q96NZ9) Proline-rich acidic protein.	Q96NZ9	100%	164	616
HLD RP33	647430	172	WUblastx .64		(Q9H743) CDNA: FLJ21394 FIS, CLONE COL03536.	Q9H743	38% 64%	340 599	278 489
HLH FP03	460467	174	WUblastx .64		(Q9WVC2) LY- 6/NEUROTOXIN HOMOLOG (ADULT	Q9WVC2	81%	224	571

HLICQ90	791828	176	WUblastx .64	MALE HIPPOCAMPUS CDNA, RIKEN (Q96N65) CDNA FLJ131349 fis, clone MESAN2000092, moderately similar to	Q96N65	95% 93%	571 59	636 616
HLTEJ06	543017	178	WUblastx .64	(AAL78047) Envelope protein.	AAL78047	32%	173	490
HLTHR66	699812	179	HMMER 2.1.1	PFAM: PAP2 superfamily	PF01569	22.3	35	151
			WUblastx .64	(Q9D4F2) 4932443D16RIK PROTEIN.	Q9D4F2	93%	2	229
HLTIP94	1087335	180	WUblastx .64	(Q96DH6) Hypothetical 35.2 kDa protein.	Q96DH6	80%	579	740
HLTIP94	1047690	433	HMMER 2.1.1	PFAM: RNA recognition motif. (a.k.a. RRM, RBD, or RNP domain)	PF00076	143.1	40	-172
			WUblastx .64	(Q96DH6) Hypothetical 35.2 kDa protein.	Q96DH6	99%	123	776
HLWAA17	629552	181	WUblastx .64	(Q9NY26) IRT1 PROTEIN (SIMILAR TO ZINC/IRON REGULATED TRANSPORTER-LJK	Q9NY26	94% 100%	226 85	960 123
HLWAA88	588485	182	WUblastx .64	(Q9H8L6) CDNA FLJ13465 FIS, CLONE PLACE1003493, WEAKLY SIMILAR TO END	Q9H8L6	99% 99% 40% 42% 92%	683 295 781 440 35	1768 696 855 517 322

HLWAA88	769166	434	WUblastx .64	(Q9H8L6) CDNA FLJ13465 FIS, CLONE PLACE1003493, WEAKLY SIMILAR TO END	Q9H8L6	95% 93% 98%	1567 1487 51	1629 1573 1493
HLWAD77	653513	183	WUblastx .64	(Q9GZP9) F-LAN-1 (HYPOTHETICAL TRANSMEMBRANE PROTEIN SBB153).	Q9GZP9	99%	29	745
HLWAE11	783071	184	HMMER 2.1.1	PFAM: C1q domain	PF00386	44.4	403	789
			WUblastx .64	(Q9BXI9) COMPLEMENT-C1Q TUMOR NECROSIS FACTOR-RELATED PROTEIN.	Q9BXI9	99%	28	861
HLWAO22	587270	185	WUblastx .64	(Q9NRG9) GL003 (ADRACALIN) (AAAS PROTEIN) (UNKNOWN) (PROTEIN FOR MGC:	Q9NRG9	78% 28% 97% 100% 83% 30% 41% 28% 26% 58%	449 139 1003 14 19 396 503 100 470 333	1147 420 1263 40 495 596 664 408 859 503
HLWBH18	1045194	186	WUblastx .64	(Q96MM0) CDNA FLJ32172 fis, clone PLACE6000555.	Q96MM0	69%	594	722
HLWBY76	797609	187	WUblastx .64	(AAH06651) Similar to hypothetical protein	AAH06651	76%	6	1127

HMADK33	561941	189	WUblastx .64	FLJ23153 hypothetical protein DKFZp761P2414.1 - human	pir T47139 T47139	87% 100% 94%	394 152 228	417 232 395
HMADS41	596831	190	WUblastx .64	(AAH07725) Ceroid- lipofuscinosis, neuronal 8 (epile)	AAH07725	92% 100%	186 427	449 1041
HMAIMI15	1352406	191	WUblastx .64	(AAL84703) Citrate lyase beta subunit.	AAL84703	99%	4	1023
HMAIMI15	1049263	436	WUblastx .64	(AAL84703) Citrate lyase beta subunit.	AAL84703	100% 79%	3 372	440 920
HMCIFY13	635301	192	WUblastx .64	(Q8WZ81) Chromosome 17 open reading frame 26.	Q8WZ81	95%	36	737
HMDAM24	514394	194	WUblastx .64	hypothetical protein DKFZp434N0615.1 - human (fragment)	pir T42663 T42663	92% 45% 33% 31% 52% 26% 25% 31% 67%	155 298 248 345 877 369 158 318 306	325 363 316 962 984 764 298 818 926
HMEA148	1352290	195	WUblastx .64	(Q9Y639) STROMAL CELL-DERIVED RECEPTOR-1 ALPHA.	Q9Y639	80%	36	158
HMEED18	560775	196	WUblastx .64	(Q9H651) CDNA: FLJ22604 FIS, CLONE HSI04630 (BBP-LIKE PROTEIN 2).	Q9H651	99%	34	696
HMSDL37	973996	199	WUblastx	(Q9H743) CDNA:	Q9H743	66%	1189	1497

				.64	FLJ21394 FIS, CLONE COL03536.		56%	931	1110
HMSDL37	895429	438		WUblastx .64	(Q9H743) CDNA: FLJ21394 FIS, CLONE COL03536.	Q9H743	64% 56%	1186 928	1494 1107
HMSDL37	904241	439		WUblastx .64	hypothetical protein 3 - human	pir E41925 E41925	50% 47%	421 161	350 39
HMSFI26	560229	200		WUblastx .64	(Q14713) POT. ORF V.	Q14713	57% 39%	1075 1041	1019 805
HMSGT42	383470	201		WUblastx .64	(Q9GZW0) DJ604K5.1 (15 KDA SELENOPROTEIN).	Q9GZW0	99%	40	525
HMSHS36	1127691	203		WUblastx .64	(O95662) POT. ORF VI (FRAGMENT).	O95662	83%	781	350
HMSHS36	1028961	441		WUblastx .64	(Q9H8K5) CDNA FLJ13501 FIS, CLONE PLACE1004815.	Q9H8K5	64% 78% 79%	494 340 367	544 381 489
HMSKC04	799540	204		WUblastx .64	(Q9H743) CDNA: FLJ21394 FIS, CLONE COL03536.	Q9H743	66% 60% 56%	1341 1414 1244	1225 1346 1053
HMUAP70	872208	205		WUblastx .64	(Q9EQH8) NEDD4 WW DOMAIN-BINDING PROTEIN 5 (FRAGMENT).	Q9EQH8	89%	69	845
HMUAP70	723302	442		WUblastx .64	(Q9BT67) UNKNOWN (PROTEIN FOR MGC:10924).	Q9BT67	73% 99%	60 107	104 721
HMUAP70	778820	443		WUblastx .64	(Q9BT67) UNKNOWN (PROTEIN FOR MGC:10924).	Q9BT67	100% 72% 100%	183 229 338	221 402 844



HMUAP70	674913	444	WUblastx .64	(Q9BT67) UNKNOWN (PROTEIN FOR MGC:10924).	Q9BT67	98% 94% 82%	209 109 62	379 216 112
HMUAP70	646810	445	WUblastx .64	(Q9BT67) UNKNOWN (PROTEIN FOR MGC:10924).	Q9BT67	73% 96%	60 107	104 583
HMUAP70	381964	446	WUblastx .64	(Q9BT67) UNKNOWN (PROTEIN FOR MGC:10924).	Q9BT67	86% 99%	60 106	104 720
HMVBS81	639203	206	WUblastx .64	(O95070) 54TMP.	O95070	100%	10	450
HMWFT65	562063	208	WUblastx .64	(Q96AZ2) Similar to hypothetical protein FLJ21463.	Q96AZ2	67%	1342	1205
HMWGY65	1308287	209	WUblastx .64	(Q8VCP9) RIKEN cDNA 1200003C23 gene.	Q8VCP9	66%	42	1442
HMWGY65	794987	447	WUblastx .64	(Q8VCP9) RIKEN cDNA 1200003C23 gene.	Q8VCP9	58% 65%	542 42	1438 596
HNEEB45	1036397	211	WUblastx .64	hypothetical protein 3 - human	pir E41925 E41925	78% 39% 44%	861 523 548	929 717 862
HNFFC43	753337	213	WUblastx .64	(Q969J4) Lipocalin-1 interacting membrane receptor (Lipocalin- interac	Q969J4	97% 66% 87% 99%	319 428 651 903	453 769 839 1517
HNFIY77	634551	214	WUblastx .64	(Q8WXE6) KCCR13L.	Q8WXE6	96% 99%	866 105	1030 866
HNFIJF07	577013	215	WUblastx .64	(Q8WYX2) Hypothetical 14.1 kDa protein.	Q8WYX2	65%	585	457
HNGAK47	561488	216	WUblastx	(Q96EF8) Unknown	Q96EF8	33%	12	206

			.64	(protein for MGC:21495).		31%	12	206
HNGEP09	499076	219	WUblastx .64	(AAK55521) PRO0764.	AAK55521	57%	965	861
HNGIU31	519120	221	WUblastx .64	(Q9N083) UNNAMED PORTEIN PRODUCT.	Q9N083	53%	1021	977
HNGJE50	561568	222	WUblastx .64	(Q9HBS7) HYPOTHETICAL 14.2 KDA PROTEIN.	Q9HBS7	50%	867	715
HNGOI12	1041375	225	WUblastx .64	collagen alpha 1(VIII) chain precursor - rabbit	pir A34246 A34246	73%	566	610
HNGOM56	836064	226	WUblastx .64	(Q96MM0) CDNA FLJ32172 fis, clone PLACE6000555.	Q96MM0	54%	615	725
HNHEU93	634851	229	WUblastx .64	(Q9H387) PRO2550.	Q9H387	66%	454	561
HNHFM14	664507	230	WUblastx .64	(Q9N8S9) POSSIBLE (HHV-6) U1102, VARIANT A DNA, COMPLETE VIRION GENOM	Q9N8S9	64%	1028	945
HNHFO29	463568	231	WUblastx .64	(Q9NX85) CDNA FLJ20378 FIS, CLONE KAIA0536.	Q9NX85	62%	919	734
						31%	1067	2092
						38%	577	744
						58%	714	953
						67%	741	418
						74%	6	122
						45%	17	223
						63%	11	124
						79%	9	110
						76%	9	122
						69%	522	695

HNHNB29	895462	232	WUblastx .64	(Q9P195) PRO1722.	Q9P195	79%	1543	1674
						75%	1398	1553
HNHOD46	843488	233	WUblastx .64	(O60448) NEURONAL THREAD PROTEIN AD7C-NTP.	O60448	76%	334	552
						56%	646	921
						56%	645	713
						52%	844	894
						73%	331	498
						59%	353	625
						50%	828	917
						70%	721	792
						48%	781	915
						50%	558	791
						35%	401	595
						31%	283	552
						50%	379	462
						61%	486	839
HNTBI26	1310821	235	WUblastx .64	(Q96F65) Similar to RIKEN cDNA 0610031J06 gene (Fragment).	Q96F65	99%	145	987
						29%	1091	1201
						95%	7	150
HNTBI26	796807	453	WUblastx .64	(Q96F65) Similar to RIKEN cDNA 0610031J06 gene (Fragment).	Q96F65	94%	516	992
						97%	149	544
						29%	1096	1206
						95%	11	154
HNTBI26	590738	454	WUblastx .64	(Q96F65) Similar to RIKEN cDNA 0610031J06 gene (Fragment).	Q96F65	70%	824	973
						92%	285	887
						84%	133	378
						29%	1077	1187
						97%	1	138
HNTBL27	545534	236	WUblastx .64	(Q96AA3) Putative endoplasmic reticulum	Q96AA3	98%	243	500
						33%	13	168

					multispan transmembrane prote				40% 96%	646 13	711 261
HNTCE26	1160395	237	HMMER 2.1.1		PFAM: 7 transmembrane receptor (rhodopsin family)	PF00001			137.5	282	1037
			WUblastx .64		(Q9H1Y3) DJ317G22.2 (ENCEPHALOPSIN) (PANOPSIN).	Q9H1Y3			100%	111	1316
HNTCE26	853373	455	HMMER 2.1.1		PFAM: 7 transmembrane receptor (rhodopsin family)	PF00001			23.2	63	218
			WUblastx .64		(Q9H1Y3) DJ317G22.2 (ENCEPHALOPSIN) (PANOPSIN).	Q9H1Y3			95% 100%	370 12	495 377
HODDN92	422913	240	WUblastx .64		(Q9H1S5) BA110H4.2 (SIMILAR TO MEMBRANE PROTEIN).	Q9H1S5			100%	1119	1021
HODGE68	834907	242	WUblastx .64		retrovirus-related hypothetical protein II - human 1	pir S23650 S23650			36% 54%	370 276	278 1
HOEDB32	634994	243	WUblastx .64		(Q9Y2Y6) TADA1 PROTEIN (DKFZP564K1964 (PROTEIN).	Q9Y2Y6			100%	104	781
HOFMQ33	1184465	244	WUblastx .64		(O15232) MATRILIN-3 PRECURSOR.	MTN3_HUMAN			85%	43	1500
HOFMQ33	919896	458	HMMER 2.1.1		PFAM: von Willebrand factor type A domain	PF00092			189.8	288	815
			WUblastx		(O15232) MATRILIN-3	MTN3_HUMAN			85%	42	1499

HOFMQ33	906694	459	.64 HMMER 2.1.1	PRECURSOR. PFAM: von Willebrand factor type A domain	PF00092	162.2	318	737
			WUblastx .64	(O15232) MATRILIN-3 PRECURSOR.	MTN3_HUMAN	81%	72	857
HOFMQ33	902639	460	WUblastx .64	(O15232) MATRILIN-3 PRECURSOR.	MTN3_HUMAN	81%	1584	877
HOFMQ33	702186	461	WUblastx .64	(Q8WUF2) Hypothetical 23.7 kDa protein.	Q8WUF2	88% 99%	937 914	911 327
HOFMT75	911180	245	HMMER 2.1.1	PFAM: Eukaryotic aspartyl protease	PF00026	619	290	1303
			WUblastx .64	cathepsin D (EC 3.4.23.5) precursor [validated] - human	pir A25771 KHHUD	87%	83	1312
HOFMT75	905365	462	WUblastx .64	cathepsin D (EC 3.4.23.5) precursor [validated] - human	pir A25771 KHHUD	65%	83	361
HOFMT75	892308	463	WUblastx .64	cathepsin D (EC 3.4.23.5) precursor [validated] - human	pir A25771 KHHUD	88%	1494	757
HOFMT75	892291	464	HMMER 2.1.1	PFAM: Eukaryotic aspartyl protease	PF00026	496.2	336	1232
			WUblastx .64	cathepsin D (EC 3.4.23.5) precursor [validated] - human	pir A25771 KHHUD	99%	129	1232
HOFOC73	931871	247	HMMER 2.1.1	PFAM: Papain family cysteine protease	PF00112	22.3	192	311
			WUblastx .64	(BAB22302) Adult male kidney cDNA, RIKEN full-lengt	BAB22302	87% 70%	316 18	918 341

HOFOC73	907073	465	WUblastx .64	(CAC09370) DJ543J19.3 (cathepsin Z).	CAC09370	76% 84%	64 411	414 920
HOFOC73	878863	467	WUblastx .64	(BAB55004) CDNA FLJ14357 fs, clone HEMBA1000005, h	BAB55004	100%	2291	819
HOGAW62	579891	248	WUblastx .64	(Q8WUD4) Similar to RIKEN cDNA 2700094L05 gene.	Q8WUD4	100%	35	130
HOHCH55	827481	249	WUblastx .64	(O95965) TEN INTEGRIN EGF-LIKE REPEAT DOMAINS PROTEIN PRECURSOR.	O95965	100%	221	1702
HOHCH55	815682	468	WUblastx .64	(O95965) TEN INTEGRIN EGF-LIKE REPEAT DOMAINS PROTEIN PRECURSOR.	O95965	100% 31% 99% 40%	1623 416 230 326	1712 1576 1621 1426
HOQBJ82	1352356	250	WUblastx .64	(CAC37794) H-1(3)mbt- like protein.	CAC37794	100%	324	2414
HOQBJ82	858338	469	WUblastx .64	(Q9BQI2) HYPOTHETICAL 69.3 KDA PROTEIN.	Q9BQI2	56% 96%	406 41	585 496
HOQBJ82	857453	470	HMMER 2.1.1	PFAM: SET domain	PF00856	211.5	100	489
			WUblastx .64	(O96028) WHSC1 PROTEIN.	O96028	98% 49%	61 2	1029 166
HOSDJ25	854234	252	WUblastx .64	(Q9D8Y9) 1810018L05RIK PROTEIN.	Q9D8Y9	85% 86%	468 143	593 544
HOSFD58	614040	253	HMMER 2.1.1	PFAM: ATP-sulfurylase	PF01747	697.3	-733	-1719

				WUblastx .64	3'-phosphoadenosine-5'- phosphosulfate synthetase - human	pir JW0087 JW0087	100%	56	1927
HOSFD58	383513	472		WUblastx .64	3'-phosphoadenosine-5'- phosphosulfate synthetase - human	pir JW0087 JW0087	100%	56	1927
HPEAD79	520202	255		WUblastx .64	(Q96NR6) CDNA FLJ30278 fis, clone BRACE2002755.	Q96NR6	48%	498	806
HPFCL43	535710	256		WUblastx .64	(AAH07349) Adrenal gland protein AD-004.	AAH07349	97%	57	257
HPIBO15	1310868	257		WUblastx .64	(Q9CQS3) 1110018M03RIK PROTEIN.	Q9CQS3	93%	128	757
HPIBO15	590741	474		WUblastx .64	(Q9CQS3) 1110018M03RIK PROTEIN.	Q9CQS3	88% 95% 97%	127 507 401	402 722 508
HPICB53	1042309	258		WUblastx .64	(Q9NX17) CDNA FLJ20489 FIS, CLONE KAT08285.	Q9NX17	74%	1138	848
HPJBI33	685699	259		WUblastx .64	(O60448) NEURONAL THREAD PROTEIN AD7C-NTP.	O60448	49% 33% 51% 35% 33% 51% 59% 52% 34% 50%	617 633 24 570 1317 155 154 137 41 3	934 890 122 872 1415 256 234 256 256 146

HPMDK28	846357	261	WUblastx .64	(Q9NP77) CDNA FLJ10947 FIS, CLONE PLACE1000066, WEAKLY SIMILAR TO SSU	Q9NP77	47%	886	942
HPMDK28	639118	479	WUblastx .64	(Q9NP77) CDNA FLJ10947 FIS, CLONE PLACE1000066, WEAKLY SIMILAR TO SSU	Q9NP77	100%	163	666
HPRAL78	1352342	263	WUblastx .64	hypothetical protein DKFZp566D213.1 - human	pir T08724 T08724	99%	62	1312
HPRAL78	844216	480	WUblastx .64	(AAH08720) Unknown (protein for MGC:8447).	AAH08720	83%	70	1017
HPRAL78	484735	481	WUblastx .64	(Q91XD7) Unknown (protein for MGC:18896).	Q91XD7	51%	490	1068
HPRBC80	829136	264	HMMER 2.1.1	PFAM: Protein phosphatase 2C	PF00481	95%	124	336
			WUblastx .64	(Q9HAY8) SER/THR PROTEIN PHOSPHATASE TYPE 2C BETA 2 ISOFORM (PROTEIN)	Q9HAY8	336.4	157	957
HPRBC80	720095	482	WUblastx .64	(Q9HAY8) SER/THR PROTEIN PHOSPHATASE TYPE 2C BETA 2 ISOFORM (PROTEIN)	Q9HAY8	99%	94	1254
							3	284



HPZAB47	585702	266	WUblastx .64	hypothetical protein 3 - human	pir E41925 E41925	34% 55%	1132 1296	884 1183
HRAAB15	658717	267	WUblastx .64	(AAH25678) Similar to putative.	AAH25678	100%	11	511
HRABA80	882176	268	WUblastx .64	(Q9HA75) CDNA FLJ12122 FIS, CLONE MAMMA1000129.	Q9HA75	63% 48% 93%	647 144 247	679 371 507
HRABA80	588460	483	WUblastx .64	(Q9HA75) CDNA FLJ12122 FIS, CLONE MAMMA1000129.	Q9HA75	63% 48% 92%	633 130 233	665 357 493
HRACD15	871221	269	WUblastx .64	(AAH08084) Hypothetical 50.4 kDa protein.	AAH08084	98%	1452	253
HRACD15	706332	484	WUblastx .64	(AAH08084) Hypothetical 50.4 kDa protein.	AAH08084	82% 98%	1649 1596	1581 253
HRACJ35	877666	270	WUblastx .64	(Q9Y5X6) BLOOD PLASMA GLUTAMATE CARBOXYPEPTIDASE PRECURSOR (EC 3.4.17	Q9Y5X6	98% 99%	1468 132	1755 1472
HRACJ35	730504	485	WUblastx .64	(Q9Y5X6) BLOOD PLASMA GLUTAMATE CARBOXYPEPTIDASE PRECURSOR (EC 3.4.17	Q9Y5X6	98% 99%	1435 99	1722 1439
HRACJ35	470546	486	WUblastx .64	(Q9Y646) AMINOPEPTIDASE.	Q9Y646	96% 100%	507 1	785 519
HRDFD27	567004	271	WUblastx .64	(Q9N032) UNNAMED PROTEIN PRODUCT.	Q9N032	47%	679	476
HRGBL78	910133	272	HMMER 2.1.1	PFAM: Immunoglobulin domain	PF00047	32	582	755

				WUblastx .64	(Q8WXH3) FREB.	Q8WXH3	87%	9	1085
HRGBL78	904040	487		WUblastx .64	(Q8WXH3) FREB.	Q8WXH3	94% 100% 100%	15 547 587	596 588 625
HRGBL78	904621	488		WUblastx .64	(Q9EPP8) VIRION- ASSOCIATED NUCLEAR-SHUTTLLING PROTEIN (FRAGMENT).	Q9EPP8	96%	118	35
HRGBL78	863802	489		WUblastx .64	(Q8WXH3) FREB.	Q8WXH3	95% 29% 98%	489 3 59	698 341 496
HROAJ03	567005	273		WUblastx .64	(Q96A82) CDNA FLJ30106 fis, clone BNGH41000190, weakly similar to Rat	Q96A82	88%	7	786
HROAJ39	1181699	274		WUblastx .64	(Q96ES0) Unknown (protein for MGC:16944).	Q96ES0	96%	7	1146
HROAJ39	1114849	490		WUblastx .64	(Q96ES0) Unknown (protein for MGC:16944).	Q96ES0	99%	10	762
HROAJ39	1027712	491		WUblastx .64	(Q96ES0) Unknown (protein for MGC:16944).	Q96ES0	95%	7	1056
HROBD68	827306	275		WUblastx .64	(Q9H728) CDNA: FLJ21463 FIS, CLONE COL04765.	Q9H728	66% 78%	418 581	576 748
HSATR82	531973	276		WUblastx .64	(Q9UI58) PRO0483 PROTEIN.	Q9UI58	80% 76%	678 605	707 682
HSAVH65	545459	277		WUblastx .64	(Q9CZR4) 2700018N07RIK	Q9CZR4	92%	23	403

HSAWD74	460527	278	WUblastx .64	PROTEIN. (Q9NX85) CDNA FLJ20378 FIS, CLONE KAIA0536.	Q9NX85	67%	967	674
HSAWZ41	580872	279	WUblastx .64	(Q9H387) PRO2550.	Q9H387	81%	1386	1102
HSAXA83	545051	280	WUblastx .64	(Q9NRX6) PROTEIN X 013.	Q9NRX6	100%	92	313
HSAYB43	604143	281	WUblastx .64	(Q9N083) UNNAMED PORTEIN PRODUCT.	Q9N083	60% 50%	1662 1580	1573 1338
HSDEK49	1352253	282	WUblastx .64	(Q9Y279) Z39IG PROTEIN PRECURSOR.	Q9Y279	100%	60	1256
HSDEK49	625998	493	HMMER 2.1.1	PFAM: Immunoglobulin domain	PF00047	18.7	225	470
			WUblastx .64	(Q9Y279) Z39IG PROTEIN PRECURSOR.	Q9Y279	88% 99%	444 126	1040 542
HSDFJ26	834619	283	WUblastx .64	(Q9BYJ0) KSP37.	Q9BYJ0	99%	99	767
HSDFJ26	836071	494	WUblastx .64	(Q9BYJ0) KSP37.	Q9BYJ0	100% 92%	99 238	281 768
HSDSE75	545057	286	WUblastx .64	(O60245) PCDH7 (BH- PCDH)A.	O60245	100%	10	702
HSDZR57	651375	287	WUblastx .64	(Q9NX00) CDNA FLJ20512 FIS, CLONE KAT09739.	Q9NX00	100%	9	209
HSIDJ81	589447	288	WUblastx .64	(Q9H728) CDNA: FLJ21463 FIS, CLONE COL04765.	Q9H728	74%	1289	996
HSKDA27	1352409	289	WUblastx .64	(BAB85613) URB.	BAB85613	83%	786	3635

HSKDA27	1074734	496	WUblastx .64	(BAB85613) URB.	BAB85613	60%	1601 1715 1718 127 1716	1789 1789 1792 1791 1790
HSKDA27	872570	497	WUblastx .64	(BAB85613) URB.	BAB85613	69% 32%	9 1597	1670 1671
HSKGN81	676075	290	WUblastx .64	(Q9CZY7) 2610307O08RIK PROTEIN.	Q9CZY7	68%	146	1126
HSKGN81	409905	498	WUblastx .64	(Q9CZY7) 2610307O08RIK PROTEIN.	Q9CZY7	66%	436	1311
HSNAD72	467397	292	WUblastx .64	(Q9P195) PRO1722.	Q9P195	62% 53% 59%	825 623 730	730 579 536
HSSGD52	1352343	297	WUblastx .64	(Q96FI8) Unknown (protein for MGC:9160).	Q96FI8	100%	344	2161
HSSGD52	845666	501	WUblastx .64	(Q96FI8) Unknown (protein for MGC:9160).	Q96FI8	100%	338	2155
HSUBW09	413246	299	WUblastx .64	(Q95LL0) Hypothetical 11.3 kDa protein.	Q95LL0	73% 77%	589 327	633 611
HSVBU91	596868	300	WUblastx .64	cytoplasmic linker protein CLIP-115 - rat	pir T42734 T42734	85%	356	171
HSYAV50	847358	301	HMMER 2.1.1	PFAM: Leucine Rich Repeat	PF00560	97.9	383	454
			WUblastx .64	(Q96CX1) Similar to RIKEN cDNA 2610528G05 gene (Fragment).	Q96CX1	96%	371	2170

HTAEE28	1018291	302	WUblastx .64	(Q9D4I2) 4932408F18RIK PROTEIN.	Q9D4I2	78%	319	1161
HTAEE28	882919	502	WUblastx .64	(Q9D4I2) 4932408F18RIK PROTEIN.	Q9D4I2	78%	372	617
HTAEE28	864120	503	WUblastx .64	(Q9D4I2) 4932408F18RIK PROTEIN.	Q9D4I2	76%	142	768
HTEEB42	206980	304	HMMER 2.1.1	PFAM: Immunoglobulin domain	PF00047	48.5	500	706
			WUblastx .64	(AAG49022) Junctional adhesion molecule 2.	AAG49022	99%	59	952
HTELP17	836072	308	WUblastx .64	(AAH24188) Similar to RIKEN cDNA 4930453N24 gene.	AAH24188	100%	22	465
HTELS08	847090	309	WUblastx .64	(Q9JI83) EPCS26 (PLAC1) (PLACENTAL SPECIFIC PROTEIN 1).	Q9JI83	34%	33	395
HTEPG70	834931	310	WUblastx .64	(Q75295) R27328_2.	O75295	93%	23	268
HTGEP89	410582	311	WUblastx .64	(Q9DAL9) 1700007K09RIK PROTEIN.	Q9DAL9	44%	258	566
HTHBG43	919911	312	WUblastx .64	(Q9NX17) CDNA FLJ20489 FIS, CLONE KAT08285.	Q9NX17	52%	846	517
HTHDS25	772559	313	WUblastx .64	(Q9PIH3) PRO1438.	Q9PIH3	66%	1045	911
HTLEP53	634852	314	WUblastx	(Q8WTZ3) Hypothetical	Q8WTZ3	66%	543	499

HTLGE31	1035130	315	.64	WUblastx .64	27.2 kDa protein. (Q9NY64) GLUCOSE TRANSPORTER.	Q9NY64	68%	806	534
HTLHY14	838460	316	.64	WUblastx .64	(Q96L02) Hypothetical 24.5 kDa protein.	Q96L02	99% 100%	36 528	434 773
HTLIV19	1046341	317	.64	WUblastx .64	(Q96LS9) CDNA FLJ25101 fis, clone CBR01328.	Q96LS9	50% 69%	119 178	172 315
HTOIZ02	847904	508	.64	WUblastx .64	ataxin 7 - human	pir T09193 T09193	99% 31% 47% 28% 97%	714 437 303 224 2	1196 619 359 718 736
HTOJK60	545067	322	.64	WUblastx .64	(Q9HA67) CDNA FLJ12155 FIS, CLONE MAMMA1000472.	Q9HA67	73% 78%	745 870	644 757
HTPCS72	854941	323	.64	WUblastx .64	(O95880) UNKNOWN.	O95880	100%	2191	2577
HTPCS72	566683	509	.64	WUblastx .64	(O95880) UNKNOWN.	O95880	100%	356	742
HTPIH83	919916	324	HMME 2.1.1	PFAM: PMP- 22/EMP/MP20/Claudin family	PF00822	PF00822	81.5	127	660
			.64	WUblastx .64	(P57739) CLAUDIN-2.	CLD2_HUMAN	100%	118	807
HTPIH83	895024	510	HMME 2.1.1	PFAM: PMP- 22/EMP/MP20/Claudin family	PF00822	PF00822	55.9	120	500
			.64	WUblastx .64	(P57739) CLAUDIN-2.	CLD2_HUMAN	98%	111	530

HTPIH83	898088	511	WUblastx .64	(P57739) CLAUDIN-2.	CLD2_HUMAN	96%	96	353
HTTBS64	1008159	327	WUblastx .64	(O00172) LINE-1 REVERSE TRANSCRIPTASE (FRAGMENT).	O00172	50%	932	714
HTWDF76	714344	328	WUblastx .64	(Q9BTF2) REC8P, A MEIOTIC RECOMBINATION AND SISTER CHROMATID COHESION	Q9BTF2	100% 92% 27% 35% 37% 79% 70% 76%	792 370 7 179 379 542 179 4	875 510 498 238 525 688 280 192
HTXFL30	620001	330	WUblastx .64	(Q96KR5) Leishmanolysin-like peptidase, variant 2 (EC 3.4.24.36).	Q96KR5	98% 100% 100% 100%	305 30 213 68	1990 68 299 94
HTXJM03	603918	331	WUblastx .64	(Q9BRH0) SIMILAR TO DKFZP727C091 PROTEIN.	Q9BRH0	100% 99%	470 564	565 1760
HTXON32	838288	332	WUblastx .64	(Q96NR6) CDNA FLJ30278 fis, clone BRACE2002755.	Q96NR6	58% 64%	1397 1194	1498 1397
HUKAH51	1352424	335	WUblastx .64	(Q96NZ9) Proline-rich acidic protein.	Q96NZ9	100%	286	738
HUKAH51	1300737	516	WUblastx .64	(Q96NZ9) Proline-rich acidic protein.	Q96NZ9	94%	144	569
HUKAH51	603538	517	WUblastx .64	(Q96NZ9) Proline-rich acidic protein.	Q96NZ9	100% 93%	462 55	479 462

HUSXS50	1352367	336	WUblastx .64	(Q9Y3I1) F-BOX ONLY PROTEIN 7.	FBX7_HUMAN	100%	280	1845
HUSXS50	883176	518	WUblastx .64	(AAH08361) F-box only protein 7.	AAH08361	99% 42% 100%	281 1566 1067	1069 1622 1666
HUSXS50	655372	519	WUblastx .64	(AAH08361) F-box only protein 7.	AAH08361	77% 26% 100%	1 43 317	459 219 700
HWAAD63	838626	338	HMMER 2.1.1	PFAM: Sodium/calcium exchanger protein	PF01699	62.8	346	453
			WUblastx .64	(Q9HC58) SODIUM/CALCIUM EXCHANGER NCKX3.	Q9HC58	65%	229	813
HWAAD63	833089	520	HMMER 2.1.1	PFAM: Sodium/calcium exchanger protein	PF01699	37.8	346	453
			WUblastx .64	(Q9HC58) SODIUM/CALCIUM EXCHANGER NCKX3.	Q9HC58	78% 55% 72%	229 429 533	453 596 814
HWAAD63	793875	521	HMMER 2.1.1	PFAM: Sodium/calcium exchanger protein	PF01699	113.7	336	773
			WUblastx .64	(Q9HC58) SODIUM/CALCIUM EXCHANGER NCKX3.	Q9HC58	76%	219	806
HWABY10	768334	339	WUblastx .64	(Q96AW1) Hypothetical 19.2 kDa protein.	Q96AW1	100%	165	665
HWBCB89	1093347	341	WUblastx .64	(BAB55294) CDNA FLJ14777 fis, clone NT2RP4000259, w	BAB55294	100%	37	597
HWBCB89	886210	522	HMMER 2.1.1	PFAM: Glutathione peroxidases	PF00255	170.2	104	433



				WUblastx .64	(BAB55294) CDNA FLJ14777 fis, clone NT2RP4000259, w	BAB55294	100%	35	595
HWBFX31	799427	342		WUblastx .64	(Q9N083) UNNAMED PORTEIN PRODUCT.	Q9N083	56%	1663	1517
HWDHAH38	1028519	343		WUblastx .64	(Q9NX85) CDNA FLJ20378 FIS, CLONE KAIA0536.	Q9NX85	71% 69% 48%	943 1113 1600	1119 1250 1340
HWDHAH38	889281	523		WUblastx .64	(Q64150) NUCLEAR LOCALIZATION SIGNAL BINDING PROTEIN.	Q64150	60%	795	673
HWHGZ51	886212	344		WUblastx .64	(Q9UJ74) HYPOTHETICAL 36.0 KDA PROTEIN (C4.4A PROTEIN).	Q9UJ74	100%	33	1070
HWLIH65	793713	345		HMMER 2.1.1	PFAM: Integral membrane protein	PF01940	49.3	147	455
				WUblastx .64	(AAH08596) Unknown (protein for MGC:16985).	AAH08596	98%	81	623
HTEAM34	898364	346		WUblastx .64	(Q96L11) Similar to RIKEN cDNA 1700034O15 gene.	Q96L11	100%	136	501
HTEAM34	570049	524		WUblastx .64	(Q96L11) Similar to RIKEN cDNA 1700034O15 gene.	Q96L11	100%	63	428
HTEJN13	1352272	347		WUblastx .64	(Q9BWWY1) BA552M11.5 (NOVEL PROTEIN) (FRAGMENT).	Q9BWWY1	100% 100%	158 351	193 779
HTEJN13	658744	525		WUblastx	(Q9DAR9)	Q9DAR9	60%	525	743

				.64	1700001D09RIK PROTEIN.		77%	163	516
HTEJN13	381941	526	WUblastx .64	(Q9HBK8) AD026.	Q9HBK8		92% 94%	191 214	229 633

### ***RACE Protocol For Recovery of Full-Length Genes***

Partial cDNA clones can be made full-length by utilizing the rapid amplification of cDNA ends (RACE) procedure described in Frohman, M.A., et al., Proc. Nat'l. Acad. Sci. USA, 85:8998-9002 (1988). A cDNA clone missing either the 5' or 3' end can be reconstructed to include the absent base pairs extending to the translational start or stop codon, respectively. In some cases, cDNAs are missing the start codon of translation, therefore. The following briefly describes a modification of this original 5' RACE procedure. Poly A<sup>+</sup> or total RNA is reverse transcribed with Superscript II (Gibco/BRL) and an antisense or complementary primer specific to the cDNA sequence. The primer is removed from the reaction with a Microcon Concentrator (Amicon). The first-strand cDNA is then tailed with dATP and terminal deoxynucleotide transferase (Gibco/BRL). Thus, an anchor sequence is produced which is needed for PCR amplification. The second strand is synthesized from the dA-tail in PCR buffer, Taq DNA polymerase (Perkin-Elmer Cetus), an oligo-dT primer containing three adjacent restriction sites (XhoI, SalI and ClaI) at the 5' end and a primer containing just these restriction sites. This double-stranded cDNA is PCR amplified for 40 cycles with the same primers as well as a nested cDNA-specific antisense primer. The PCR products are size-separated on an ethidium bromide-agarose gel and the region of gel containing cDNA products the predicted size of missing protein-coding DNA is removed. cDNA is purified from the agarose with the Magic PCR Prep kit (Promega), restriction digested with XhoI or SalI, and ligated to a plasmid such as pBluescript SKII (Stratagene) at XhoI and EcoRV sites. This DNA is transformed into bacteria and the plasmid clones sequenced to identify the correct protein-coding inserts. Correct 5' ends are confirmed by comparing this sequence with the putatively identified homologue and overlap with the partial cDNA clone. Similar methods known in the art and/or commercial kits are used to amplify and recover 3' ends.

Several quality-controlled kits are commercially available for purchase. Similar reagents and methods to those above are supplied in kit form from Gibco/BRL for both 5' and 3' RACE for recovery of full length genes. A second kit is available from Clontech which is a modification of a related technique, SLIC (single-stranded ligation to single-stranded cDNA), developed by Dumas et al., Nucleic Acids Res., 19:5227-32 (1991). The major differences in procedure are that the RNA is alkaline hydrolyzed after reverse transcription and RNA ligase is used to join a restriction site-containing anchor primer to the first-strand cDNA. This obviates the necessity for the dA-tailing reaction which results in a polyT stretch that is difficult to sequence past.

An alternative to generating 5' or 3' cDNA from RNA is to use cDNA library double-stranded DNA. An asymmetric PCR-amplified antisense cDNA strand is synthesized with an antisense cDNA-specific primer and a plasmid-anchored primer. These primers are removed and a

symmetric PCR reaction is performed with a nested cDNA-specific antisense primer and the plasmid-anchored primer.

***RNA Ligase Protocol For Generating The 5' or 3' End Sequences To Obtain Full Length Genes***

Once a gene of interest is identified, several methods are available for the identification of the 5' or 3' portions of the gene which may not be present in the original cDNA plasmid. These methods include, but are not limited to, filter probing, clone enrichment using specific probes and protocols similar and identical to 5' and 3' RACE. While the full length gene may be present in the library and can be identified by probing, a useful method for generating the 5' or 3' end is to use the existing sequence information from the original cDNA to generate the missing information. A method similar to 5' RACE is available for generating the missing 5' end of a desired full-length gene. (This method was published by Fromont-Racine et al., Nucleic Acids Res., 21(7):1683-1684 (1993)). Briefly, a specific RNA oligonucleotide is ligated to the 5' ends of a population of RNA presumably containing full-length gene RNA transcript and a primer set containing a primer specific to the ligated RNA oligonucleotide and a primer specific to a known sequence of the gene of interest, is used to PCR amplify the 5' portion of the desired full length gene which may then be sequenced and used to generate the full length gene. This method starts with total RNA isolated from the desired source, poly A RNA may be used but is not a prerequisite for this procedure. The RNA preparation may then be treated with phosphatase if necessary to eliminate 5' phosphate groups on degraded or damaged RNA which may interfere with the later RNA ligase step. The phosphatase if used is then inactivated and the RNA is treated with tobacco acid pyrophosphatase in order to remove the cap structure present at the 5' ends of messenger RNAs. This reaction leaves a 5' phosphate group at the 5' end of the cap cleaved RNA which can then be ligated to an RNA oligonucleotide using T4 RNA ligase. This modified RNA preparation can then be used as a template for first strand cDNA synthesis using a gene specific oligonucleotide. The first strand synthesis reaction can then be used as a template for PCR amplification of the desired 5' end using a primer specific to the ligated RNA oligonucleotide and a primer specific to the known sequence of the gene of interest. The resultant product is then sequenced and analyzed to confirm that the 5' end sequence belongs to the relevant gene.

The present invention also relates to vectors or plasmids which include such DNA sequences, as well as the use of the DNA sequences. The material deposited with the ATCC (e.g., as described in columns 2 and 3 of Table 1A, and/or as set forth in Table 1B, Table 6, or Table 7) is a mixture of cDNA clones derived from a variety of human tissue and cloned in either a plasmid vector or a phage vector, as described, for example, in Table 1A and Table 7. These deposits are referred to as "the deposits" herein. The tissues from which some of the clones were derived are listed in Table 7, and the vector in which the corresponding cDNA is contained is also indicated in Table 7. The deposited material includes cDNA clones corresponding to SEQ ID NO:X described,

for example, in Table 1A and/or Table 1B (ATCC Deposit No:Z). A clone which is isolatable from the ATCC Deposits by use of a sequence listed as SEQ ID NO:X, may include the entire coding region of a human gene or in other cases such clone may include a substantial portion of the coding region of a human gene. Furthermore, although the sequence listing may in some instances list only a portion of the DNA sequence in a clone included in the ATCC Deposits, it is well within the ability of one skilled in the art to sequence the DNA included in a clone contained in the ATCC Deposits by use of a sequence (or portion thereof) described in, for example Tables 1A and/or Table 1B or Table 2, by procedures hereinafter further described, and others apparent to those skilled in the art.

Also provided in Table 1A and Table 7 is the name of the vector which contains the cDNA clone. Each vector is routinely used in the art. The following additional information is provided for convenience.

Vectors Lambda Zap (U.S. Patent Nos. 5,128,256 and 5,286,636), Uni-Zap XR (U.S. Patent Nos. 5,128, 256 and 5,286,636), Zap Express (U.S. Patent Nos. 5,128,256 and 5,286,636), pBluescript (pBS) (Short, J. M. et al., *Nucleic Acids Res.* 16:7583-7600 (1988); Alting-Mees, M. A. and Short, J. M., *Nucleic Acids Res.* 17:9494 (1989)) and pBK (Alting-Mees, M. A. et al., *Strategies* 5:58-61 (1992)) are commercially available from Stratagene Cloning Systems, Inc., 11011 N. Torrey Pines Road, La Jolla, CA, 92037. pBS contains an ampicillin resistance gene and pBK contains a neomycin resistance gene. Phagemid pBS may be excised from the Lambda Zap and Uni-Zap XR vectors, and phagemid pBK may be excised from the Zap Express vector. Both phagemids may be transformed into *E. coli* strain XL-1 Blue, also available from Stratagene.

Vectors pSport1, pCMVSport 1.0, pCMVSport 2.0 and pCMVSport 3.0, were obtained from Life Technologies, Inc., P. O. Box 6009, Gaithersburg, MD 20897. All Sport vectors contain an ampicillin resistance gene and may be transformed into *E. coli* strain DH10B, also available from Life Technologies. See, for instance, Gruber, C. E., et al., *Focus* 15:59- (1993). Vector lafmid BA (Bento Soares, Columbia University, New York, NY) contains an ampicillin resistance gene and can be transformed into *E. coli* strain XL-1 Blue. Vector pCR<sup>®</sup>2.1, which is available from Invitrogen, 1600 Faraday Avenue, Carlsbad, CA 92008, contains an ampicillin resistance gene and may be transformed into *E. coli* strain DH10B, available from Life Technologies. See, for instance, Clark, J. M., *Nuc. Acids Res.* 16:9677-9686 (1988) and Mead, D. et al., *Bio/Technology* 9: (1991).

The present invention also relates to the genes corresponding to SEQ ID NO:X, SEQ ID NO:Y, and/or the deposited clone (ATCC Deposit No:Z). The corresponding gene can be isolated in accordance with known methods using the sequence information disclosed herein. Such methods include preparing probes or primers from the disclosed sequence and identifying or amplifying the corresponding gene from appropriate sources of genomic material.

Also provided in the present invention are allelic variants, orthologs, and/or species homologs. Procedures known in the art can be used to obtain full-length genes, allelic variants, splice variants, full-length coding portions, orthologs, and/or species homologs of genes corresponding to SEQ ID NO:X or the complement thereof, polypeptides encoded by genes corresponding to SEQ ID NO:X or the complement thereof, and/or the cDNA contained in ATCC Deposit No:Z, using information from the sequences disclosed herein or the clones deposited with the ATCC. For example, allelic variants and/or species homologs may be isolated and identified by making suitable probes or primers from the sequences provided herein and screening a suitable nucleic acid source for allelic variants and/or the desired homologue.

The polypeptides of the invention can be prepared in any suitable manner. Such polypeptides include isolated naturally occurring polypeptides, recombinantly produced polypeptides, synthetically produced polypeptides, or polypeptides produced by a combination of these methods. Means for preparing such polypeptides are well understood in the art.

The polypeptides may be in the form of the secreted protein, including the mature form, or may be a part of a larger protein, such as a fusion protein (see below). It is often advantageous to include an additional amino acid sequence which contains secretory or leader sequences, pro-sequences, sequences which aid in purification, such as multiple histidine residues, or an additional sequence for stability during recombinant production.

The polypeptides of the present invention are preferably provided in an isolated form, and preferably are substantially purified. A recombinantly produced version of a polypeptide, including the secreted polypeptide, can be substantially purified using techniques described herein or otherwise known in the art, such as, for example, by the one-step method described in Smith and Johnson, Gene 67:31-40 (1988). Polypeptides of the invention also can be purified from natural, synthetic or recombinant sources using techniques described herein or otherwise known in the art, such as, for example, antibodies of the invention raised against the polypeptides of the present invention in methods which are well known in the art.

The present invention provides a polynucleotide comprising, or alternatively consisting of, the nucleic acid sequence of SEQ ID NO:X, and/or the cDNA sequence contained in ATCC Deposit No:Z. The present invention also provides a polypeptide comprising, or alternatively, consisting of, the polypeptide sequence of SEQ ID NO:Y, a polypeptide encoded by SEQ ID NO:X or a complement thereof, a polypeptide encoded by the cDNA contained in ATCC Deposit No:Z, and/or the polypeptide sequence encoded by a nucleotide sequence in SEQ ID NO:B as defined in column 6 of Table 1C. Polynucleotides encoding a polypeptide comprising, or alternatively consisting of the polypeptide sequence of SEQ ID NO:Y, a polypeptide encoded by SEQ ID NO:X, a polypeptide encoded by the cDNA contained in ATCC Deposit No:Z, and/or a polypeptide sequence encoded by a nucleotide sequence in SEQ ID NO:B as defined in column 6 of Table 1C are also encompassed by the invention. The present invention further encompasses a

polynucleotide comprising, or alternatively consisting of, the complement of the nucleic acid sequence of SEQ ID NO:X, a nucleic acid sequence encoding a polypeptide encoded by the complement of the nucleic acid sequence of SEQ ID NO:X, and/or the cDNA contained in ATCC Deposit No:Z.

Moreover, representative examples of polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the sequences delineated in Table 1C column 6, or any combination thereof. Additional, representative examples of polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the complementary strand(s) of the sequences delineated in Table 1C column 6, or any combination thereof. In further embodiments, the above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in Table 1C, column 6, and have a nucleic acid sequence which is different from that of the BAC fragment having the sequence disclosed in SEQ ID NO:B (see Table 1C, column 5). In additional embodiments, the above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in Table 1C, column 6, and have a nucleic acid sequence which is different from that published for the BAC clone identified as BAC ID NO:A (see Table 1C, column 4). In additional embodiments, the above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in Table 1C, column 6, and have a nucleic acid sequence which is different from that contained in the BAC clone identified as BAC ID NO:A (see Table 1C, column 4). Polypeptides encoded by these polynucleotides, other polynucleotides that encode these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention. Additionally, fragments and variants of the above-described polynucleotides and polypeptides are also encompassed by the invention.

Further, representative examples of polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the sequences delineated in column 6 of Table 1C which correspond to the same Clone ID (see Table 1C, column 1), or any combination thereof. Additional, representative examples of polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the complementary strand(s) of the sequences delineated in column 6 of Table 1C which correspond to the same Clone ID (see Table 1C, column 1), or any combination thereof. In further embodiments, the above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in column 6 of Table 1C which correspond to the same Clone ID (see Table 1C, column 1) and have a nucleic acid sequence which is different from that of the BAC fragment having the sequence disclosed in SEQ ID NO:B (see Table 1C, column 5). In additional embodiments, the above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in column 6 of Table 1C which correspond to the same Clone ID (see Table 1C, column 1) and have

a nucleic acid sequence which is different from that published for the BAC clone identified as BAC ID NO:A (see Table 1C, column 4). In additional embodiments, the above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in column 6 of Table 1C which correspond to the same Clone ID (see Table 1C, column 1) and have a nucleic acid sequence which is different from that contained in the BAC clone identified as BAC ID NO:A (see Table 1C, column 4). Polypeptides encoded by these polynucleotides, other polynucleotides that encode these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention. Additionally, fragments and variants of the above-described polynucleotides and polypeptides are also encompassed by the invention.

Further, representative examples of polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the sequences delineated in column 6 of Table 1C which correspond to the same contig sequence identifier SEQ ID NO:X (see Table 1C, column 2), or any combination thereof. Additional, representative examples of polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the complementary strand(s) of the sequences delineated in column 6 of Table 1C which correspond to the same contig sequence identifier SEQ ID NO:X (see Table 1C, column 2), or any combination thereof. In further embodiments, the above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in column 6 of Table 1C which correspond to the same contig sequence identifier SEQ ID NO:X (see Table 1C, column 2) and have a nucleic acid sequence which is different from that of the BAC fragment having the sequence disclosed in SEQ ID NO:B (see Table 1C, column 5). In additional embodiments, the above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in column 6 of Table 1C which correspond to the same contig sequence identifier SEQ ID NO:X (see Table 1C, column 2) and have a nucleic acid sequence which is different from that published for the BAC clone identified as BAC ID NO:A (see Table 1C, column 4). In additional embodiments, the above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in column 6 of Table 1C which correspond to the same contig sequence identifier SEQ ID NO:X (see Table 1C, column 2) and have a nucleic acid sequence which is different from that contained in the BAC clone identified as BAC ID NO:A (See Table 1C, column 4). Polypeptides encoded by these polynucleotides, other polynucleotides that encode these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention. Additionally, fragments and variants of the above-described polynucleotides and polypeptides are also encompassed by the invention.

Moreover, representative examples of polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the sequences delineated in the same row of Table 1C column 6, or any combination thereof.



Additional, representative examples of polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the complementary strand(s) of the sequences delineated in the same row of Table 1C column 6, or any combination thereof. In preferred embodiments, the polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the complementary strand(s) of the sequences delineated in the same row of Table 1C column 6, wherein sequentially delineated sequences in the table (i.e. corresponding to those exons located closest to each other) are directly contiguous in a 5' to 3' orientation. In further embodiments, above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in the same row of Table 1C, column 6, and have a nucleic acid sequence which is different from that of the BAC fragment having the sequence disclosed in SEQ ID NO:B (see Table 1C, column 5). In additional embodiments, the above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in the same row of Table 1C, column 6, and have a nucleic acid sequence which is different from that published for the BAC clone identified as BAC ID NO:A (see Table 1C, column 4). In additional embodiments, the above-described polynucleotides of the invention comprise, or alternatively consist of, sequences delineated in the same row of Table 1C, column 6, and have a nucleic acid sequence which is different from that contained in the BAC clone identified as BAC ID NO:A (see Table 1C, column 4). Polypeptides encoded by these polynucleotides, other polynucleotides that encode these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention.

In additional specific embodiments, polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the sequences delineated in column 6 of Table 1C, and the polynucleotide sequence of SEQ ID NO:X (e.g., as defined in Table 1C, column 2) or fragments or variants thereof. Polypeptides encoded by these polynucleotides, other polynucleotides that encode these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention.

In additional specific embodiments, polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the sequences delineated in column 6 of Table 1C which correspond to the same Clone ID (see Table 1C, column 1), and the polynucleotide sequence of SEQ ID NO:X (e.g., as defined in Table 1A, Table 1B, or Table 1C) or fragments or variants thereof. In preferred embodiments, the delineated sequence(s) and polynucleotide sequence of SEQ ID NO:X correspond to the same Clone ID. Polypeptides encoded by these polynucleotides, other polynucleotides that encode these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention.

In further specific embodiments, polynucleotides of the invention comprise, or alternatively consist of, one, two, three, four, five, six, seven, eight, nine, ten, or more of the sequences delineated in the same row of column 6 of Table 1C, and the polynucleotide sequence

of SEQ ID NO:X (e.g., as defined in Table 1A, Table 1B, or Table 1C) or fragments or variants thereof. In preferred embodiments, the delineated sequence(s) and polynucleotide sequence of SEQ ID NO:X correspond to the same row of column 6 of Table 1C. Polypeptides encoded by these polynucleotides, other polynucleotides that encode these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention.

In additional specific embodiments, polynucleotides of the invention comprise, or alternatively consist of a polynucleotide sequence in which the 3' 10 polynucleotides of one of the sequences delineated in column 6 of Table 1C and the 5' 10 polynucleotides of the sequence of SEQ ID NO:X are directly contiguous. Nucleic acids which hybridize to the complement of these 20 contiguous polynucleotides under stringent hybridization conditions or alternatively, under lower stringency conditions, are also encompassed by the invention. Polypeptides encoded by these polynucleotides and/or nucleic acids, other polynucleotides and/or nucleic acids that encode these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention. Additionally, fragments and variants of the above-described polynucleotides, nucleic acids, and polypeptides are also encompassed by the invention.

In additional specific embodiments, polynucleotides of the invention comprise, or alternatively consist of, a polynucleotide sequence in which the 3' 10 polynucleotides of one of the sequences delineated in column 6 of Table 1C and the 5' 10 polynucleotides of a fragment or variant of the sequence of SEQ ID NO:X are directly contiguous. Nucleic acids which hybridize to the complement of these 20 contiguous polynucleotides under stringent hybridization conditions or alternatively, under lower stringency conditions, are also encompassed by the invention. Polypeptides encoded by these polynucleotides and/or nucleic acids, other polynucleotides and/or nucleic acids encoding these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention. Additionally, fragments and variants of the above-described polynucleotides, nucleic acids, and polypeptides are also encompassed by the invention.

In specific embodiments, polynucleotides of the invention comprise, or alternatively consist of, a polynucleotide sequence in which the 3' 10 polynucleotides of the sequence of SEQ ID NO:X and the 5' 10 polynucleotides of the sequence of one of the sequences delineated in column 6 of Table 1C are directly contiguous. Nucleic acids which hybridize to the complement of these 20 contiguous polynucleotides under stringent hybridization conditions or alternatively, under lower stringency conditions, are also encompassed by the invention. Polypeptides encoded by these polynucleotides and/or nucleic acids, other polynucleotides and/or nucleic acids encoding these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention. Additionally, fragments and variants of the above-described polynucleotides, nucleic acids, and polypeptides are also encompassed by the invention.

In specific embodiments, polynucleotides of the invention comprise, or alternatively consist of, a polynucleotide sequence in which the 3' 10 polynucleotides of a fragment or variant

of the sequence of SEQ ID NO:X and the 5' 10 polynucleotides of the sequence of one of the sequences delineated in column 6 of Table 1C are directly contiguous. Nucleic acids which hybridize to the complement of these 20 contiguous polynucleotides under stringent hybridization conditions or alternatively, under lower stringency conditions, are also encompassed by the invention. Polypeptides encoded by these polynucleotides and/or nucleic acids, other polynucleotides and/or nucleic acids encoding these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention. Additionally, fragments and variants of the above-described polynucleotides, nucleic acids, and polypeptides, are also encompassed by the invention.

In further specific embodiments, polynucleotides of the invention comprise, or alternatively consist of, a polynucleotide sequence in which the 3' 10 polynucleotides of one of the sequences delineated in column 6 of Table 1C and the 5' 10 polynucleotides of another sequence in column 6 are directly contiguous. Nucleic acids which hybridize to the complement of these 20 contiguous polynucleotides under stringent hybridization conditions or alternatively, under lower stringency conditions, are also encompassed by the invention. Polypeptides encoded by these polynucleotides and/or nucleic acids, other polynucleotides and/or nucleic acids encoding these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention. Additionally, fragments and variants of the above-described polynucleotides, nucleic acids, and polypeptides are also encompassed by the invention.

In specific embodiments, polynucleotides of the invention comprise, or alternatively consist of, a polynucleotide sequence in which the 3' 10 polynucleotides of one of the sequences delineated in column 6 of Table 1C and the 5' 10 polynucleotides of another sequence in column 6 corresponding to the same Clone ID (see Table 1C, column 1) are directly contiguous. Nucleic acids which hybridize to the complement of these 20 lower stringency conditions, are also encompassed by the invention. Polypeptides encoded by these polynucleotides and/or nucleic acids, other polynucleotides and/or nucleic acids encoding these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention. Additionally, fragments and variants of the above-described polynucleotides, nucleic acids, and polypeptides are also encompassed by the invention.

In specific embodiments, polynucleotides of the invention comprise, or alternatively consist of, a polynucleotide sequence in which the 3' 10 polynucleotides of one sequence in column 6 corresponding to the same contig sequence identifier SEQ ID NO:X (see Table 1C, column 2) are directly contiguous. Nucleic acids which hybridize to the complement of these 20 contiguous polynucleotides under stringent hybridization conditions or alternatively, under lower stringency conditions, are also encompassed by the invention. Polypeptides encoded by these polynucleotides and/or nucleic acids, other polynucleotides and/or nucleic acids encoding these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention.

Additionally, fragments and variants of the above-described polynucleotides, nucleic acids, and polypeptides are also encompassed by the invention.

In specific embodiments, polynucleotides of the invention comprise, or alternatively consist of a polynucleotide sequence in which the 3' 10 polynucleotides of one of the sequences delineated in column 6 of Table 1C and the 5' 10 polynucleotides of another sequence in column 6 corresponding to the same row are directly contiguous. In preferred embodiments, the 3' 10 polynucleotides of one of the sequences delineated in column 6 of Table 1C is directly contiguous with the 5' 10 polynucleotides of the next sequential exon delineated in Table 1C, column 6. Nucleic acids which hybridize to the complement of these 20 contiguous polynucleotides under stringent hybridization conditions or alternatively, under lower stringency conditions, are also encompassed by the invention. Polypeptides encoded by these polynucleotides and/or nucleic acids, other polynucleotides and/or nucleic acids encoding these polypeptides, and antibodies that bind these polypeptides are also encompassed by the invention. Additionally, fragments and variants of the above-described polynucleotides, nucleic acids, and polypeptides are also encompassed by the invention.

### Table 3

Many polynucleotide sequences, such as EST sequences, are publicly available and accessible through sequence databases and may have been publicly available prior to conception of the present invention. Preferably, such related polynucleotides are specifically excluded from the scope of the present invention. Accordingly, for each contig sequence (SEQ ID NO:X) listed in the fifth column of Table 1A and/or Table 1B, preferably excluded are one or more polynucleotides comprising a nucleotide sequence described by the general formula of a-b, where a is any integer between 1 and the final nucleotide minus 15 of SEQ ID NO:X, b is an integer of 15 to the final nucleotide of SEQ ID NO:X, where both a and b correspond to the positions of nucleotide residues shown in SEQ ID NO:X, and where b is greater than or equal to a + 14. More specifically, preferably excluded are one or more polynucleotides comprising a nucleotide sequence described by the general formula of a-b, where a and b are integers as defined in columns 4 and 5, respectively, of Table 3. In specific embodiments, the polynucleotides of the invention do not consist of at least one, two, three, four, five, ten, or more of the specific polynucleotide sequences referenced by the Genbank Accession No. as disclosed in column 6 of Table 3 (including for example, published sequence in connection with a particular BAC clone). In further embodiments, preferably excluded from the invention are the specific polynucleotide sequence(s) contained in the clones corresponding to at least one, two, three, four, five, ten, or more of the available material having the accession numbers identified in the sixth column of this Table (including for example, the actual sequence contained in an identified BAC clone). In no way is this listing

meant to encompass all of the sequences which may be excluded by the general formula, it is just a representative example. All references available through these accessions are hereby incorporated by reference in their entirety.

**Table 3**

cDNA Clone ID	SEQ ID NO: X	Contig ID:	EST Disclaimer Range of a Range of b		Accession #'s
H2CBU83	11	884134	1 - 2689	15 - 2703	BE613316, BE739453, AW961199, AV658769, BE785673, AW963999, BF037119, BG030580, BF036149, BF699154, BF033837, BF697524, BF695458, BF036638, BF701778, BG030507, AW377122, BF665913, BF699078, AW377125, BF665294, AV658829, BF667082, BG166746, AW851261, BF241480, AW850925, AI978869, BF695890, AA845339, BF668201, BF699860, BF085620, AA405940, BE612726, BF666583, BF667787, BE739116, BF665805, AW752845, BF701466, AI800939, BG121547, AI620357, BF700054, AW851052, AI924880, AW752835, AI800807, BF697582, BF700919, BF667321, AI139396, BE958619, AV692286, AI955392, AW752844, BE042841, BF698625, BF244588, AW440250, BF698345, AW152584, AW955901, AI671911, AA535832, AW850982, AI935579, BE089877, AW752868, AI683119, BF130660, D61864, AW630835, AI621153, BF514638, BF697211, AW192136, AI286255, AA403153, D62117, AW028833, N78154, BF154792, BF665821, AI538061, N64201, AW851056, AW938593, BE093579, AW938596, AA928873, AV651183, BE817020, AV657915, AV657131, BF666276, AV660141, AI699025, AI016115, R66206, N45586, D61708, BE868472, AA403241, AV657914, AA313513, AV682813, H88565, AA531589, R58698, AA857811, H42631, AA307010, R67084, BF334107, AW971385, R68027, AW021104, AW296538, BG166828, AI887214, AW468968, R64487, H88521, BF697149, R94825, R68028, R92884, R65584, AA377208, AI050980, AA318641, D62093, BF813323, N78160, T73957, D61982, D62303, D62026, AI806100, AA095925, N56560, T73925, AA507092, BF750358, BE148612, BF750357, BE867141, T73948, N88292, T73916, BE044052, H95089, H73281, AV660091, AF257182.1, AF346711. 1.
H2MAC30	12	544957	1 - 445	15 - 459	AI089027, AA308141, AW504673, AI684832, AA225036, AI806235, AA480904, AW084470, BE246140, AI769587, AA480993, AA936449, AI743330, AW025616, R84772, AI244944, N58917, AI085514, AA504299, AI273353, AI762989, AA100979, AA857531, AW276652, AW952845, AW440624, AI277859, R74507, AW269427, AI221905, AW016095, H72021, AI150547, H65671, T89998, AI937672, H86848, R74517, R52128, BE243519, AA224988, AA588111, T89414, AA976027, Z39380, BE869329, R48449, R72429, AA229997, AA308518, BF183288, AA229612, AI694870, AV755614, AV755613, T24832, AA229703, AA620967, AA594460, AA480941, AA480883, BF059107, AA278692, AV691613, AI197824, H65670, AA480992, AA480966, AC003070. 1.
H6EDC19	13	543259	1 - 746	15 - 760	AI090153, AI767722, BG116691, AI797075, BF528376, AI698172, AI681570, BE671343, AI539236, AV704244, AI539246, BE264613, AA864681, AW204700, AI808925, BE676036, T79284, BF445461,

						AA400027, AI209219, AA300244, AA427390, AA302217, AA252421, AA406631, AI869251, BF969629, AI262951, AI498669, AA300243, AW072158, T79197, AA411721, AV682333, F34003, AI123608.
HACBD91	14	637482	1 - 1431	15 - 1445		AI123694, AA203656, AV707802, BF575227, N77966, AW956121, N71852, BF732312, AI338999, AA704675, AI742966, AA176725, AV744696, AI039168, AA329423, AA680411, F10345, T85994, AV682639, AA731436, AV735262, AV733694, AA505796, AW95998, BF793146, H79631, R00088, BF978632, BG034327, AV716953, AW955313, BG032189, AV717860, AV716893, BF244606, AV733654, BG030662, AI802907, AA528524, AA973692, AA658895, AV714250, AV718258, AV716004, BF029739, F26324, AW772717, BE909294, AA370595, AI392630, BF529817, AI914394, BE748127, AA975366, BF029799, AI126532, AA977864, R38577, AI093884, AW264528, AI351443, AA916014, AA359165, AA594324, AI682171, AA404535, BG034254, T75123, AI832970, AA973611, AI833308, AI814033, BE781781, BF035996, BF036344, AA888167, BE541776, BF109665, BE551387, AI268514, AV710503, AI709250, F33691, BF216659, F33502, BE467615, AV738506, BE503802, AV763934, BG110890, AV742881, AV710956, BF965198, BG033031, T90966, R02459, F32392, BF029956, BF690853, AV764373, BE738142, BF244383, AW772766, BF978393, BF030821, BE548289, N64163, BF576733, AW872492, BE218579, BE539011, BE042987, BF978138, BE217894, BF692527, AW419258, BF219313, BF244019, R02355, BF242775, AA340839, AW440167, F30529, BE748667, AA640120, BG179795, BF679132, BF382290, AI719390, R35603, BF240791, BF691038, AW009337, AA886535, BE738709, AI253328, AW268515, BF977850, H79632, AV764541, BF214426, BE184678, BE171856, BF382191, F12739, BF031722, BE564110, F21702, BF219100, F26311, F27624, F31646, F24066, F30253, F21442, BF030470, BF215493, AA365400, AV725369, BF243623, BF216495, F23622, R38445, Z20180, F23439, BF031636, AA340808, BF246303, F29361, BF212059, DI9917, BF210763, AI720401, N58379, AA706899, BE737668, F37786, AC009289.8, BC000855.1, AF044957.1, AC008804. 6.
HAGAQ26	15	561996	1 - 1319	15 - 1333		BF111995, BF111899, AW051348, AI807015, AA349378, AA349433, H05458, T39468, T39511, F02812, T50009, T50073, Z43427, AI372659, BE843943, BE843903, AA860404, BG015163, BE938621, BE843892, AI372657, BE698483, BF092079, BE301746, BG015653, AA496848, AL045349, BE047833, BE965724, BE965432, BE875407, BE964497, AW059713, AL037454, BE964512, AL119836, BE967307, AI918408, BG180506, BE964876, BF924856, AI683559, AW151136, BG107576, BE965067, AW268261, AI691088, AI798271, AV689111, BG253692, BE011885, AI868163, AI918634, AW084097, BE875022, BE879931, AI340603, AV728806, AL036652, BF814335, AI370392, BE963838, AV725920, AW021717, AW089036, BE877142, BE964795, AI469516, AI805638, AI925404, AA291456, AL040694, AI285439, AA888196, BE966404, BE965758, BE965355, BE544111, BG180273, AI366968, AW022682, AV742698, AI560679, AI345608, BE967149, AI366959, AI473536, BG153056, BE964614, BE540578, AI349933, AI623736, AW020095, BF038804, BE908276, AV742475, AI345471, BE966787, AI343091, AI345677, BE966011, BE965621, AI340519, AW162189, BF814357, AW198144, AI446809, AV717295, AV716613,

AV682144, AI366992, AA806719, AV682099, BE964661, AA789133, BE963918, BE904051, AW023338, AV738730, BE873776, BG027082, BF032404, BG164035, BE613727, BG032219, AI863357, BF965884, AL048323, BG153050, AI636719, AV756658, AW827289, AL048340, BE879905, BG109270, AW020693, AI686576, AW858254, BE964073, AI470293, AW827290, AW058233, AL038605, BG107625, AI702527, BG260037, AW834325, BE047952, BF793031, AA643235, AI418254, AI623905, AI538764, AI524654, AI249946, BE964006, AA848053, AV733819, AA635382, H42825, AI929108, BF924884, BG029053, BE974031, AI473451, AV711509, BG252714, AL048644, BF868927, AL040241, BE883591, BF968622, AW068845, AI624293, BF813196, AW022494, BF340323, AL046463, AW020288, AI521596, AW021373, AW162194, BF915316, BF925370, BF886214, AI923989, BE965481, AI868204, AI242736, BE891942, BE735380, BF909758, AA579232, BG166687, AV715354, BE964767, AV756247, AV758825, BF814449, AL038445, BE965121, AW163834, BF343521, AW084056, BG032169, BE904851, BF868811, BG104782, AI537677, BG122101, AI628325, AI590645, BE875402, AW083804, AI561299, BE908335, AW059828, BF753056, AI559863, AV726125, BF750879, AW265004, F26535, AI583032, BF811808, AI366974, AI355765, BF822127, AI609593, AI887775, AI858865, AI500061, BG121959, AA572758, BF699668, AI348897, BE778024, BF814504, AI345224, AI357599, AV681949, T99953, AI589428, BG113851, BG110517, AL530922, AF169301.1, AC091736.1, AL442082.1, AB049853.1, AL389935.1, BC007364.1, S78214.1, X99717.1, AL122121.1, AK027161.1, BC006195.1, BC001418.2, BC005858.1, AK000310.1, S77771.1, AL389939.1, AF090900.1, AF090934.1, BC003104.1, AK025092.1, AK024524.1, AB047897.1, BC007674.1, AB044547.1, AL136789.1, BC004874.1, AL122045.1, AK026506.1, AL389978.1, AL049464.1, AF067420.1, BC007355.1, M86826.1, AB063071.1, AL110196.1, BC001293.1, BC007998.1, BC006287.1, AL096751.1, AL133565.1, AF057300.1, AF057299.1, Y10080.1, BC008387.1, AK026518.1, AL133081.1, AL162006.1, U42031.1, AK027142.1, U51587.1, AF177336.1, AK000137.1, AL157479.1, AL137547.1, AL133093.1, AB063008.1, AK025431.1, AL390167.1, BC008673.1, BC000317.1, AB047869.1, AF205861.1, BC003650.1, AL133560.1, AK024538.1, BC000799.1, AK026480.1, AF218014.1, AL049382.1, AK027182.1, AK000421.1, AK000323.1, S76508.1, BC001774.1, AB051158.1, AB047615.1, AL137523.1, AL353957.1, U58996.2, AB055303.1, Z37987.1, AB060887.1, AK026452.1, BC008025.1, AL050170.1, BC003687.1, AK026395.1, AB060912.1, AL122111.1, AB060863.1, BC005160.1, AB056809.1, AB052191.1, Y14314.1, AK026927.1, AL096744.1, AL137658.1, AL137705.1, AL137292.1, BC000778.1, BC008185.1, S61953.1, AL137283.1, AF097996.1, AL049430.1, AL390154.1, BC006164.1, AL512718.1, AL049314.1, J05032.1, AL117583.1, AB063046.1, AF110640.1, BC001349.1, AF120268.1, AK000212.1, AK000083.1, BC006180.1, AK027164.1, AB047801.1, BC007534.1, BC000556.1, BC004905.1, AL110224.1, BC007021.1, AK026462.1, AL356278.8, AF162270.1, AL050277.1, BC008070.1, AL512684.1, AB047966.1, BC006408.1, AF225424.1, AK000655.1, AB060856.1, AK025573.1, BC001056.1, AB047631.1, BC005890.1, AL137273.1, BC004370.1, AF207829.1, BC002491.1,					
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HAGBZ81	16	456414	1 - 1368	15 - 1382	<p>AL532808, BF356940, T26989, F07451, T26988, BE089554, AV753931, AA176259, Z38391, AI652752, AU123074, AU132666, AV753734, BE876059, BF911695, AV755178, D61463, AI267311, AW387165, AW178928, AW374679, AW374832, BE089568, AW374731, BF700420, BF914304, BE173287, AW178920, AW751520, N83868, AW387129, BG170148, AW374762, AL120973, BE933886, AI915992, BE004012, AF224469.1, AF306765.1, AF184241.1, U03109.1, AF289489.1, S83325.1, AF224468.1.</p>
HAGDG59	17	534165	1 - 1720	15 - 1734	<p>AV694248, BE895909, BE903848, BG027942, AV651246, BG109867, BF240140, BF217526, BF669125, BE779936, AV650099, BF971092, AW875350, AW956342, BF107182, BF697022, BG166672, BF030619, BE881774, BE548671, BF247518, AI888053, BF667451, BE872808, AI768748, BF792803, N37046, N23484, BE872350, BF239058, AW664126, BF107464, W88681, AW338066, AW952476, AW402833, BE971415, AW853145, BF968304, AI636324, N24759, BF665132, BF213364, AA830565, AV697089, AA167203, AW023148, AI815125, AI685119, H98763, BE465545, AW853521, AW405572, AA481430, AW604402, AA481434, AA223067, AA902413, AW578436, BG258700, AI954984, AA045833, AI567716, BE856103, AA577610, H42133, AA553538, AA470843, AW467047, AW169016, AI961753, H38614, AA835545, AI262411, AW192401, AI193508, AA576473, AV660930, AW262909, AA263040, BE927225, AA481670, BE782154, W88620, AA394254, BG261374, AA730743, AA653560, R80477, AV651327, BF572366, AW193089, BF904780, AW470979, BF904779, AW295546, AA045967, AA329460, H42134, AA213836, R23904, BE243520, BE693582, AI263974, AW293723, AA481674, H61494, BF674778, R23903, R80672, BF032805, R61171, N79745, BF382094, H38856, AA328661, BF902314, BF243422, R27506, BF894060, T72506, AW361405, H62468, W07107, AI468319, AA362581, R27793, AW853797, AW337877, AW075817, BF031795, BE866675, BF905580, T82403, R27885, AW339053, AA377009, BF791479, AI708354, AA485696,</p>

HAGDS35	18	1352199	1 - 737	15 - 751	BF239244, AW051074, BE866177, AI497897, AA485827, AW273624, BF905573, BF205089, AW022407, AI678575, Z21560, BF238897, BF699925, BE926278, BF239919, AW836245, AF126780.1, BC008650.1, Z64479. 1.
HAIBO71	20	490848	1 - 738	15 - 752	AI803504, AI261590, AW970422, AA430349, AI017015, AI217649, AI357214, AA425610, AW170513, N21542, AI805514, AA535732, AI922416, AI089295, AI807997, BE549761, BF434916, AI093989, AI537981, BE464016, AI128724, AA046439, AW970309, AA211360, AA974447, BE672109, BE466566, AI990335, AI655816, AI479968, AI926934, AI961572, AW970221, AW243397, AA534329, AW593487, AI283132, BF115098, AA256606, AA019380, BF061520, AA936249, AI446563, AA872374, AA011475, H25408, AI393572, AI203429, AI961183, BF735047, AW613954, AI216786, AI798452, H28374, C01415, AW016511, BE551700, AA730296, AI991488, BF476167, AA455164, AA516090, R46342, R43067, R35671, H39555, AA258077, AI950123, Z38679, AL535820, AW887425, AW958078, BE771685, AI382468, AA971129, AA090871, BF971621, AA455366.
HAIBO71	20	490848	1 - 738	15 - 752	AI767324, AW976385, AL121194, AA972628, AI095851, AA743343, BE566411, AF118928, AW366882, D20570, AC009802. 13.
HAJAF57	22	823516	1 - 2747	15 - 2761	AI670135, AI460009, AI375542, AI338350, AA362719, AA482775, AW963333, BE160727, AI282511, BF339636, AW022897, AV757341, AV731764, AW274925, BE504746, AI254779, AW408047, AW407578, AV734583, AV731604, AV731603, AU121168, AL121904.13, AP001711.1, Z85986.1, AC009267.15, AC011485.6, AL354928.9, AP000960.2, AL132768.15, AC007358.2, AC005058.1, AL049795.20, AC005245.1, AC034193.4, AC005971.5, AL034406.1, AC002310.1, AC018808.4, AC002299.1, AL354815.10, AL121897.32, AP001705.1, AC083863.2, AL158040.13, AC008770.6, AL121601.13, AL360080.21, AF053356.1, AL138725.19, AL139801.17, AC008736.6, AC010422.7, AL139009.14, AC020908.6, AF130342.1, AC006288.1, AC010494.4, AP001688.1, AF228703.1, AC005562. 1.
HAJAN23	23	1352364	1 - 2835	15 - 2849	BF337092, BF968693, AI949422, AL523556, BF798043, AV702522, AI423046, BE883392, BE786755, BG178390, BE408282, N31952, AA465612, AW195192, BE543143, AI564487, AV660395, BE543045, R88931, BE825704, AA658285, AW975104, AI740792, BE002027, BE928231, R89611, BG168885, BF331860, AW590726, AA641596, AA313322, BF358320, AW418507, AW842226, AI949987, AW615497, AW194161, BF222524, BF197303, BF755611, AI869038, AW243485, BF754745, AI367183, BE073382, AW013907, AF310971.1, AF301000.1, AB050049.1, AF261884.1, AC010279.4, AB050050.1, AK025591.1, AL079298.1, Z70695. 1.
HAJBR69	24	638516	1 - 741	15 - 755	BE262907, AW503376, AW503644, BF982382, BE079288, AW504239, AA701415, BF315343, BE277664, BF921555, BF736464, BF756620, BE720223, BE815902, AA490675, BE930704, AW971745, AW804686, AW392670, BE695785, AW861944, AW604723, AW877209, AL119483, U46351, AW858526, AW858525, AL042984, AL119497, AL119324, AL119319, AL119355, AW500561, U46349, AL134538, AL119457, BE705903, BE705906, AW577135, AW372827, AW384394, AW861889, AW858455, AW363220, U46350, Z99396, AL119484, AL119363, AL119391, U46347, U46341, AL119443, BF868687, AL119444, AL119341, BF868697, AW604726, AL119439,

						BF868684, BE705905, AL119522, AL119396, U46346, AL119335, AL134531, AL134533, AL037205, AL134920, AL134525, BE705904, AL119399, AL043029, AL119496, AL119418, AW861954, U46345, AL043011, AL042614, AL042975, AL043033, AL042544, AL042965, AL134542, AL042450, AL042542, AL043019, AL043003, AL119464, AL042551, AB028986.1, AB026436. 1.
HAMFE15	25	903695	1 - 4115	15 - 4129		AL530791, AL530792, AL529741, AL535065, AL535066, AU124538, AU133125, BG248951, BG170992, BF342607, BE791618, BE788808, BE889885, BE899228, BE266316, BF666692, AA604226, BE855814, AA858439, BF306389, AW965351, A1459262, A1949460, BE566846, A1920795, BF695661, A1628581, A1810626, AA213464, BF436958, A765166, BF131526, AA446901, BE669483, BF105045, AA165298, AW300022, N48825, AA595754, BE218460, BF126313, AA165297, BE044264, A1686706, AW300346, BF760498, A1472286, A1804402, AA26331, A1278834, AW169453, AW239143, AA426332, H29503, AW602873, AA213575, BF376918, AV749783, AA075971, AA447021, AA074072, BE244841, A1002939, BE832901, AA598694, BE694349, A1471852, A1961851, AW136228, A1422999, AA707156, H29787, AV692260, AV692283, AV692263, BE243932, BE244952, BF330518, AV698872, AA333388, AV698900, AV691373, AV695584, AV694677, AV687965, AV696854, R13303, AA564851, A1762353, BF751566, BE244135, AV690233, AV696838, BE463584, T05291, BF878149, BE258595, N55929, AV698875, BF238880, AA348529, AV689303, T78749, BF736483, BE674953, N89249, N45617, D12186, AW961934, BF208387, AW418929, AW300980, A1522016, R91823, AW293669, W81348, AV649579, N95619, BE503239, A1739123, AK001704.1, AJ278150.1, AC004918.1, AL049792.11, AC010979.3, AC006396.1, AC005692. 1.
HAMGG68	26	731859	1 - 1444	15 - 1458		AW973341, AL041477, AW471262, AV696883, A1799683, A1983869, AA579632, A1763280, A1962918, AW962479, AA919175, BE467860, A1694808, BE671481, BE670142, H97854, AA190313, AW608357, AV763623, A1656460, A1218288, AA057842, N39132, AA977897, A1907444, A1819548, A1698748, A1221889, A1300453, AA554290, BE327102, BF510243, A1366844, A1208651, AW341424, AW517375, A1092422, A1458704, AW770918, AA322568, H97652, AW058433, BG055320, T84069, AA587633, A1699024, BF881447, AW873347, AA397560, W46809, A1969771, AA807704, AA367835, R61770, A1819419, BF812696, BE882869, AL121039, A1702049, AA557945, AW148821, AA569220, AW118842, BF790866, A1567676, AW021674, AV683406, A1884404, BE875478, AW043803, AA935827, BG180320, BG059139, A1636422, AW265468, AW243817, AW162314, AW157128, A1439525, A1890283, AV743869, AW979200, AA805879, AW072963, AW162332, A1434103, H86399, AL134524, AA112864, AW576388, H47461, AW410844, AW192930, AL138262, A1445699, A1572680, BE049409, AV758849, AW029626, AW675677, AW575808, AU146789, BF725436, A1828721, BE045167, AW995605, A1860423, BG250794, A1888050, A1064968, BE065048, AV756809, A1547110, AV759204, AA084320, AA280886, A1028148, BF882222, AW662484, AA021061, AA349923, AW473160, A1732690, AW152451, BG059924, AA330549, AW328185, AW839858, AA604601, AW338376, AA171400, AW970856, BE747923, BF882223, AA218684, A1889177, AA661583, AW510403, A1150934, A1312614, BF901147, A1754926, A1620666,

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HAMGR28	27	892971	1 - 1660	15 - 1674	AL519641, AL519640, AL525613, AL526308, AL527643, AL530324, AL525663, AL525671, AL530325, AL515833, AL515832, BF313053, AL527577, BF529163, BE312001, BF984557, BF530620, BE396752, BE304484, BF983145, BE560368, BF316599, BG114646, BE269376, BF313413, BE298748, BE440179, AW953553, BF307907, AW978612, BE617303, AA845426, AI830874, AI983227, AW956917, AW410199, AW628335, BE464326, AA530876, AW452186, BE139083, AI829507, AI356849, W69111, AW084551, AA406233, AI589504, AI970964, AI420766, AI701901, AI130010, AI288363, BF571959, AI683363, BE019516, BE206283, AW272707, N23238, AA593625, AI000296, AA406505, AW593667, AI933020, AI337797, BF691989, AI139514, BF062876, W35301, AI418519, AV759081, AW514035, AW004995, AW591716, F28754, AA815275, AI347528, AI624104, AA574436, AI817434, AI025110, T08849, AL527576, AI079740, AA962799, AA707405, BF445536, F37186, AW207522, AW591663, AW263070, AW510310, AW264517, AA028008, T33149, AA723895, W69236, R40168, T23442, H88132, H78378, AW514039, D12424, W23701, F34521, Z43089, BE646197, AI475064, AA653748, AA312858, AW959275, AW410198, AI932423, AA121114, AA121036, AA295884, AA356831, AI310743, BF513002, AA381766, Z39180, R12971, AW379122, AI768799, BE877018, AI560685, AA338084, AI810799, AW861944, AW750703, F24446, AW972092, AW858525, AW877209, AW968355, AW968356, AW972093, AW968729, AW971740, AW972091, AI431351, AW972090, AW969229, AW858455, AW804686, AL119324, AI432644, AI623302, AW604723, AW858526, AI432647, AI432653, AW081103, AI432661, AI492519, BE672748, BC007438.1, AC004150.8, AF064854.1, AB026436.1.
HAPOM49	28	769555	1 - 1991	15 - 2005	AL520731, AL520732, BE271092, BE271295, BF111901, AV650049, BF686278, BE840511, BF111645, AI809801, AW168904, AI809806, AW103024, AA933973, AI744944, AI588991, AI033486, AI096548, AA662523, AW468813, AI950317, AI279302, AI096696, BF239172, AW662564, AA417671, AI189300, AI753808, AA235373, AW960081, AI095057, W86920, AW189373, AI361321, BF061913, AI366754, AI218487, AI824959, AI348339, AI032926, AV659024, AA889791, BE243641, AA626261, AI338100, AA417558, W24077, AW974720, N72014, AA894657, N59290, R01247, AA235784, BE929365, BE929364, BE244396, AI275184, AI810247, W24089, R36924, AA356938, N91904, AA508411, AA649828, N91912, N99466, Z24931, H68902, BE782571, BF840140, AC004067.1, AF332892.1, AF306567.1.
HAPPW30	29	1352278	1 - 1458	15 - 1472	BF568560, BF309463, BF568858, BF968457, BE729680, BG121453, BE044480, AW958703, AW957664, AW341517, AA868588, AA479992, AA758865, AA305964, AI276502, AV696016, AA846842, BF963424, AW510684, AI183515, N41325, BF674083, AW273135, AA954695, AI685296, H57026, AA969117, AI147710, N95033, AA962530, AV650263, AA758255, BF929642, BF798962, AI337591, AA150989, AI675402, AA775255, AI167695, AI798973, AW172620, AI359078, AI688288, AI151098, BE931071, AI911606, AW469667, AA383301, H83172, AW749394, AW603134, AI188832, AI078598, H58146, AA446238, AA310796, AA724109, AA864698, AI240610, BF033606, BF854704,

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HATBR65	30	635514	1 - 798	15 - 812		AW754098, AV747079, AW964560, BF827304, A1697254, AA826321, AA663880, BF924786, AA772037, AV725414, AA826164, AA663006, AA826322, BE062047, AA835931, AA319870, R95053, AV760830, BF918713, BF959165, A1053538, BF930635, BE828744, AA078591, AF139781, AA491430, AA078183, AW393403, W74390, AW578861, AW393400, AA320812, BF840307, AA078213, AW752269, BF757569, AA077448, BG004304, AW793003, AA047825, AA001509, AA076683, AW857010, BE183669, BE183617, BE699552, AV720211, AW973541, BE932909, A1254770, A1284543, A1251203, A1249853, AV743864, A1251284, AW276678, AW966385, BF952670, BE707812, A1251034, A1250552, AW970571, AW869794, BE139139, AA609826, AW303098, AA552586, BF952311, AV719632, AV718487, AW905386, BE138387, AV720104, BF952747, AA015737, AW975623, BF129140, AA076784, AA604865, BG222875, AV720729, AA504818, AW905269, AV754716, AW969831, AA501867, BE042006, BF589824, W72324, BF691892, A1954192, AA610381, AA503018, AA747757, H04977, AA904211, A1912401, A1279417, BE968744, AC004084.1, AF030453.1, AC005088.2, AC004951.5, AC018720.5, AC007078.3, AC004980.4, AC007000.2, AC006480.3, AC004878.2, AC006014.2, AC007003.4, AC005488.2, AC005098.2, AC004867.5, AC004166.12, AK021477.1, AC005071.2, AC005236.4, AP000350.1, Z95115.1, AC073462.8, AC007792.1, X51956.1, Z95331.2, AC022382.3, AC087071.2, AC005291.1, AL035495.13, AL162424.20, AC002107.1, AC002106.1, Z98884.11, AF168787.1, AL157791.4, Z82215.1, AF172081.1, AC008116.8, AL008729.1, AC018809.4, AC079141.7, AC011811.42, AC006111.3, AC020558.4, AC007766.1, AL162426.20, AL139317.5, AL390838.26, AL031005.1, AL161779.32, AC004477.1, AC008392.6, AL162615.13, AC009509.7, AC003690.1, U95740.1, AL034372.33, AF196970.1, AF253417.1, AC000062.1, AL109825.23, AC024028.10, AL034553.12, AC003030.1, AL591398.2, AC005899.1, AL034400.2, AC073492.18, AC011473.4, AC005772.1, AL139316.5, AC006487.8, AC011472.7, AP001929.4, AP000963.2, AC072061.8, Z98051.6, AC005327.1, AC007225.2, AL109804.41, AC006057.5, AP001711.1, AL136984.20, AC009506.5, AL139100.9, AC008397.7, AC007199.1, AL137162.25, AF190464.1, AC009247.12, AC025430.5, AC005261.1, AC006357.5, AC005325.1, AL121880.21, AC008395.6, AP000314.1, AL353715.21, AC025166.7, AL049779.6, AL355336.15, AC011479.6, AC011495.6, AL359644.10, AC020904.6, AC004706.1, Z98044.13, AL049874.3, AC007201.1, AL161757.4, AC007130.2, AL139415.10, AC022384.4, AC008738.6, Z95114.19, AC090841.1, AC005378.2, AC022001.3, AL031848.11, AC018494.6, AL445435.11, AC002128.1, AC018811.4, AC007685.2, AL121601.13,

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HATCB92	31	603948	1 - 1742	15 - 1756	AI253043, AA621792, N84222, AA094505, AL522648, AC009244.24, AK025372.1, BC008349.1, AB020635. 1.
HATEE46	32	565618	1 - 1661	15 - 1675	BE739761, BE867642, BG252738, BF670373, AI590088, AA452296, AW188012, AI467834, BF110214, AI698059, BE555889, BE220673, AI076779, BG170578, AW304047, AI653610, AW070709, AA015580, BE300577, AA705209, AI458930, AW173124, BG149183, AI037932, BF671524, AI597851, BE671575, AI310753, AI051897, AI128681, BF447913, AW295982, BF433016, AI300950, AI140885, AW473730, BF448227, N35880, AW770729, BF108371, R72042, AW302140, AA479329, AW023183, AA040787, AI494017, H98707, AI453020, AI932397, AA041222, AI038152, AA478593, AI459059, AA151356, AI168123, AI160559, AI125997, AI702632, AI073784, H97885, AV746537, AI433746, AI383747, AW085003, BF431762, AW079138, AI214632, H57061, N27692, AI298395, AA225891, AI383747, AW085003, BF431762, AW079138, AI214632, H57061, N27692, W20186, AI537044, AI796916, AA661665, AI290329, AI383748, T39342, H99889, AA045544, BF433765, AI948963, AI143362, BE044374, AA767678, N36000, AI203768, H88073, AA311260, N91032, AW794932, N27062, AI382971, R19439, AI037915, AA829174, N24274, N50690, AI702532, AI192385, AW166934, AI979183, AA664910, AA056938, R20449, N92329, AI625107, N43958, AW193300, AA095102, AW888582, AI160547, AA515467, N36021, N28575, N50773, BE536609, AA054589, BF694768, N73785, BE814490, AW606976, BF942077, N99407, AA151355, BF942458, AW663523, BE046513, AA897347, AI829594, BF130347, BE814323, BF089510, BE738984, AL133574.1, AL117450.1, AK027342. 1.
HAUAI83	33	639009	1 - 896	15 - 910	BE439675, BF984328, BF978147, AW955502, BF337207, BE272543, AV757236, BE903592, BF212880, AW405217, BE743902, AI991315, AV701663, BE270100, BF681301, BG178791, BE222645, BG167626, BF132414, AW069149, BF238307, AV736544, BG255905, BF698492,

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HBAMB15	34	671835	1 - 807	15 - 821	
HGBA69	35	1352289	1 - 967	15 - 981	AL520900, AL520550, AL521649, BG029889, AV704088, AW372721, BE264987, BE906201, AL037829, BE782595, AA779652, BF724791, AW372704, AL037830, BG104612, AA722880, N21569, AA478642, AA447813, BE349318, BG254734, AI168324, BE047392, AW131642, AI590628, AA410845, AL520901, AI829611, AA447814, AI359892, AI142945, AA252189, AA974206, AI142943, AI190425, BF508776, BE350039, D59872, AI446645, AI335769, AI268764, AI077663, AA776515, AI806892, AI085888, AW083118, AA554318, AI439022, AI373036, AA302641, W73952, N42730, AV683614, AA594115, AA936827, AI249488, AI917956, R66420, AW511599, AW151261,



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HBIAE26	36	514418	1 - 1024	15 - 1038	AW237905, A1635440, AL079734, AV729929, H73550, A1669421, BE092488, AC004076.1, AY030284.1, AL139353.3, AC008569.6, AC011479.6, AL031659.9, AC083865.2, AL353807.18, AE006464.1, AL136979.16, AL163032.3, AC019097.5, AC015651.18, Z93023.1, AC011484.4, AC013449.8, AC005015.2, AC006120.1, AC084865.2, AC022116.5, AL512449.6, AL109797.18, AC005736.1, AC006008.2, AL022336.1, AC006329.5, AC002302.1, AL357515.26, AL035669.43, AF288742.1, AC005522.2, AC005840.2, AC021016.4, AC078962.30, AP002851.2, AL138787.11, AP001695.1, AL160269.14, AC005512.1, AL034420.16, AL354932.26, AC005088.2, AC011500.7, AC008666.5, AC010404.5, AC000353.27, AC011469.6, AL139384.16, U91321.1, AC005355.1, AL024498.12, AC008755.6, AC020552.4, AC008641.6, AL356970.21, Z97876.1, AC005046.3, AL022326.1, AC007388.3, AL451075.15, AL390374.16, AC026431.3, AC011497.6, AC009120.8, AC010267.6, AL158207.15, AL590762.1, AL137229.4, AL135978.4, AL133454.6, AC008901.5, AC008752.6, AC002045.1, AC006211.1, AP002982.2, AC002301.1, AC004106.1, AC004089.25, AP001752.1, AL138733.15, AC006449.19, AL121992.24, AC015550.18, AL035420.15, AC067941.7, AC004900.2, AC008786.6, AL109743.4, AL121578.1, AC018639.8, AP002812.3, AL033383.26, AC010913.9, AC024561.4, AC010618.7, AC020916.7, AL157877.11, AC018758.2, AL035071.17, AC002470.17, AC004922.2, AL035422.12, AC006597.2, AC011236.8, AC006480.3, AC007597.3, AL357315.14, AC000360.35, AL353135.32, AC022217.5, AC005531.1, AC008946.6, AC008264.10, AL049539.21, AC008655.6, AL138784.30, AC006538.1, AF129075.2, AL356257.14, AL034417.14, AC008440.8, AC005920.1, AC009131.6, AL121826.11, AC005480.3, AC083871.2, AL139385.12, AC007683.5, AC011452.6, AC008155.9, AP000555.1, AC009470.4, AC005077.5, AF064861.1, AL139809.16, AB003151.1, AL136105.9, AL049776.3, AC008745.6, AL031774.1.
HBINS58	37	1352386	1 - 829	15 - 843	A1827239, AW104045, AL536345, AL096774.9.
HBJNC59	38	1125802	1 - 1047	15 - 1061	AW007501, AA902287, A1858092, A1005351, AW959933, BF342564, AW083940, BF820646, A1870864, AW960414, A1032697, AW149115, AA829811, AA709070, AW264612, AA643392, A1951841, AA614344, A1312642, AA533443, BF850030, A1799536, AA991955, BG222284, A1830766,

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HBNW17	39	526797	1 - 587	15 - 601	AA713518, AA807610, AW104604, AA830415, AW975518, AL138824. 19.
HBOEG69	40	793786	1 - 1397	15 - 1411	AW576190, AA524064, BF701378, AI337569, AW058654, AW964434, BE568412, AW978965, AW241842, BE221243, AI346249, AW241843, AA825846, AA936562, AI184881, AI346396, AA570030, AW368546, AA465472, AW995507, AW361365, AV743550, W74158, AV750714, H80936, BF879997, BF880246, AI144077, AV743963, AV740879, AI053597, AI222773, R95913, BF901243, AA318779, BF088361, D62291, R27740, BF767423, AI277044, AV743740, AI053934, AI310256, R27741, R08998, C00592, N64904, AA827757, AK024978.1, AC006146.2, AF147723.1.
HCACU58	41	625923	1 - 1540	15 - 1554	AW470141, AI540555, AI150724, AU120416, AA547979, AI187148, AA287570, N32944, AA255853, AI802087, AW276458, BG009661, AI923052, AW976784, AA904211, BF805088, AI278972, AW269504, BF942976, BF939548, BF725844, BF944736, AV720367, BF920612, AA812058, AA410788, AA535216, AW069227, BG056362, AW965008, BE265787, AA425924, AA873573,

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					AC011464.5, AB003151.1, AC008556.5, AL139316.5, AB026898.1, AC018738.4, U91323.1, AL049761.11, AC007386.3, Z84466.1, AC010422.7, AP002852.3, AP001725.1, AC018719.4, AC008635.6, AL109935.39, AF047825.1, AC007850.29, AF109907.1, AC004000.1, AC011484.4, AC020906.6, AC018751.30, AB038653.1, AL133545.10, AL008719.1, AL139396.17, AC005412.6, AC005778.1, AL121825.19, Z95152.1, AC024163.2, AC010092.4, AC006441.13, AC004826.3, AC044797.5, AL132780.5, AL035086.12, AC083855.2, AL138756.23, AC011465.4, AC002312.1, AC022384.4, AL035086.12, AC083855.2, AC012512.7, AC008755.6, AL163032.3, AC000360.35, AL354864.16, AC016830.5, AC007731.14, AC004876.2, AL109628.5, AL034549.19, AL137073.13, AC004873.3, AC005086.2, AC006329.5, AL035659.22, AC011480.3, AC002565.1, AC015982. 9.
HCE2F54	42	634016	1 - 1262	15 - 1276	AL530657, AL534642, AL519887, AL519439, BE257752, AA769913, AL609266, BE674973, AI652143, BG057242, BE046399, AI669608, AU157638, BF347064, BE046435, AI571552, AA406626, AI634414, AW731848, BE245626, AI372990, AW473891, AU153165, AA969877, AI458122, AA402109, AU157487, AI815017, AA936365, AA481847, AI052565, AA704608, AI860561, BE736308, AI591232, AA425187, BF685966, AA479747, AI922541, AA889587, AA992245, R47377, AV694506, AA707462, AA283778, BF589042, AI767815, AW439290, AI354234, AW630387, R82068, BF829195, BG152634, AA229272, BE246763, AI745410, AW074728, AI867440, AA405028, AI652744, AI799388, AW732540, AA724063, AI249812, R43967, BE247615, AA229721, AA290883, AA477093, BF847615, AW117313, AA425298, AW804421, AV661367, AW627358, AA456146, W45494, R82878, R82020, F35061, H01485, AW014040, F25139, AA339640, AI961334, AA478233, AA362857, AA326205, BE244646, AA229827, AA377429, AI186501, BG008599, BE242784, T32225, AV686564, AA688260, AI085847, AV686569, BE157547, AA860204, R08559, F09429, AA405272, BF845336, BF380796, BF380795, AI860044, AA883556, AA032260, AA332516, AA402982, AA332325, BE157532, AA336006, Z39018, AI695855, AI589935, AI583010, AI954634, BF841145, AW469249, F04759, AA032193, F04962, AI524382, BF922668, BE157535, H01586, AI298047, T89862, AL530658, BF883965, BF374266, M78413, BF883968, AW197535, AW952615, BF847600, AW007397, BE157466, AI907687, AI632570, AL519888, AK023173.1, BC007642.1, BC007864. 1.
HCE3G69	43	728432	1 - 2070	15 - 2084	BE740754, BF339727, BE740538, BE277589, BE382940, BE618822, BE793142, BE390135, BF530091, AW969581, BF315345, BF340007, BG164152, BE618316, BE277504, BE740158, BE542020, BF527796, BF796337, BF310510, BE409091, BE545069, BE312476, AI979049, BF314374, AI828148, BF528364, BF341988, AA987262, AA789210, BE783336, AA552222, BE042994, BE408361, AA542834, BE262213, BF724352, BG170449, AA399248, AI399975, AA682879, AA709002, AA628073, AA523036, AI281261, AI749652, AI148325, BE297932, AI347619, AI206709, AI857651, AI304965, R77325, AI523697, AA349818, T16002, H56978, N95160, AA351179, BF736456, BF919187, W16789, R61061, AA994296, BE872104, AW131936, T77786, BF805555, R42239, AI001897, R49103, H27917, AI216183, BF435415, AA349337, AA293132, AA349338, H47705, BF690107, BE909738, BE831416, T87999, R77274, AA017080, AA293765, H47615, W21536, R64334,

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HCE5F43	44	612796	1 - 1751	15 - 1765	<p>AL525531, BG034956, BE858832, BE897817, BF510434, BG253874, AI656560, AI628821, BF215392, BF244940, AI097077, BG235906, AW954960, AU160122, BF245375, BF977858, AU155177, AI470134, BF224262, AU150756, AU149864, AW473477, AI955730, BF248416, BF448271, BF154789, AI378490, AI800985, AW069497, AI034459, AA156289, AI073518, AI697128, BF030327, AU155857, AA233239, BF102934, AU156440, AI573091, AA135491, BE222305, N47760, AA447203, BF086535, AI160238, N99672, AU154967, AI963320, AA234550, BF574918, BE930107, AI799196, BF241316, BE928494, AA256954, BF084221, BF084272, N34505, BF086530, AW362473, AA046377, AA251743, AW362472, N79724, BF084201, AV720349, N42280, BF084190, AA251841, AA256955, BF086505, BF086503, N71937, AI167179, AA235408, AA704119, R62459, AA568672, BE928500, AA773818, AA256646, BF094389, AA112337, BF086529, R25715, AA417904, AA256645, AA320096, AA236661, AI525894, BE961214, BF758245, N62776, BF185469, BF511940, AA233163, BF084203, N71943, BF086500, D61858, AW188824, AI563986, BF695980, AL525580, BF086533, AI611807, BF086496, AU136037, BF114811, BE536773, AK023459.1, AF063600.1, AB056410.1, AB050431.1.</p>
HCEFB80	45	1143407	1 - 2480	15 - 2494	<p>BF343021, BF339312, BF341481, BF967606, BF344530, BF344213, BF513319, AI393526, BE857064, AW016800, AI937454, AI370995, AW170034, AA416907, AW044650, N75664, BF341415, AW960857, BG222497, AA703765, BE855450, AU146334, AA703342, N64813, T23840, AA446784, AA228781, M86149, T08275, AA386225, AA417008, AI671567, T15689, AW128975, AA432098, H83023, M85314, AI277779, BG222958, BF923571, M79106, BG152559, R13095, R11764, R21361, BF921573, F05369, T28040, T10247, AA323697, AI361427, AW235399, AI352392, T10246, R37689, AW594074, R40527, H82804, N59328, BF894586, R46460, T15861, BE672078, C14288, D25217.2, AF319633.1, AL022327. 17.</p>
HCENK38	46	658737	1 - 1495	15 - 1509	<p>BG178033, BE896063, AV722833, BE907276, BE277857, BF952019, AA521308, AW182868, AA908959, AI628880, AW173363, AW665845, BE870003, AW631238, AI151418, BF996707, AI818267, BG180581, AI653663, AA001203, BE150445, R78710, AA130178, W03542, AA746655, AI828924, AA001202, AI961323, BE277870, AI093113, AI377976, AI951984, AI635625, AI624029, AI418242, AW088095, AI346936, W92652, AA130170, AA024605, W60401, N53543, AI207798,</p>

					<p>AA969140, AV706224, AA206833, AA862855, AA883077, AW173095, AW467519, BF830518, AI890288, AW952261, AA676671, R76291, AA641764, W60310, AI536758, AA742467, W92685, BF830522, C01747, BF029590, AW273508, W72474, AL047508, AI863984, W46673, AA928559, H97873, W46482, AA969604, T17266, W92828, W94587, BF963436, AA024606, AA973624, R61420, BF107415, AI932612, W76228, N72501, BE147741, AI160170, AI247642, AI499771, AW582120, N92375, AI803849, C04881, AW192182, N67695, R76925, AV728500, BF906742, AA641806, AW601191, BG104607, H00789, T31087, R61378, BE706416, AL047509, R78711, R76567, AA564390, AA992073, C15162, AI187944, AW779277, H39236, AA82071, W61163, H85007, AA733042, W61229, AI016971, H81599, H97053, R78466, H86612, H85630, AV713546, H90060, H86032, R78534, AW952259, AW889353, AA021401, AI540906, W24617, R62435, AA714924, R84855, H00689, H81598, AA918680, BE903841, T08911, BF834059, AA501896, BG106391, R40305, H86526, H85633, AA021275, R21120, H85004, AA774992, AI834279, AW970014, BE140906, N56017, AA573996, AI300746, R13223, Z43839, AI834298, AA094627, R85725, AA600097, AI475228, AI834286, AW380821, H85894, AA573651, BE843503, T32504, AA010588, AW380818, BE881856, AI879932, AA992769, D55263, AA829059, AW770059.</p> <p>T51653, AW168798, BG059728, AW151307, AA189081, AL133942, AI924175, AI610776, AI034217, AI479035, BE165748, AI811494, AW090210, AA346162, AW167452, AI687804, AI749571, AA470572, AW089655, AI197934, AI827133, AI4144339, N64574, AA470493, AI697247, AI937684, N76274, AI984510, AL047920, AA223830, AA493998, BE176566, AV730063, T62931, BE148908, AA876415, AI801377, AW589501, AA085707, AW177317, AI439860, AI813517, AA581340, AI858607, AA099491, AA613244, AI887321, AA643785, AA633390, UI433906, AV719347, AI362951, W58428, AU146966, AA847621, AI564253, AI921101, AL041417, AA643823, AI567544, AI733077, AW177120, AI561208, AI264673, BE158597, AU145674, AA130536, AA694579, N74502, N54295, AW440317, AF063514, AU119100, AA873103, AW177237, AI160519, AA197059, AW177231, AW177264, AA598786, W49501, AA911409, N26540, BE264670, AL036881, AU146974, AA493751, AW994225, C17730, AA724159, AU145383, AA157033, AA041332, AI166854, H96719, AA055634, H65500, AA219480, AU148220, AI935333, AL523955, AI132962, AW084901, N48690, AI862874, D29455, AA598990, BE044603, AF074627, AV730577, BG235936, AA878800, R94112, AW275729, AI376984, AI951835, AA101456, AA503213, AW440351, AI735074, AW177266, BE904846, AA846188, AW177226, BE152426, AA493735, AA593081, AW615437, AI538654, AA404968, AW813744, AA669580, F03370, AA350922, AA356989, AI421079, AV728282, AW771706, N76124, AI189033, AA584498, AI961771, AA953572, AV719696, AA467957, H04879, BE159220, T69889, AV720543, H97020, AA467904, AW074001, AF282520.1, AC073310.7, AK026100.1, AL030995.1, AL445236.22, AC023160.31, AK027219.1, AC003977.1, AC008945.6, AJ271735.1, AC012172.6, AL161415.2, AL139125.18, AC002217.1, AC023892.35, AL512629.7, AC069228.26, AC011998.8, AP000075.1, AC008651.7, AL133238.3, AL359816.16, AL121694.4, AP000639.4, AC004029.1, AL121757.7, AC002349.1,</p>
HCEWE20	47	543370	1 - 871	15 - 885	

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HCFNN01	48	430297	1 - 1247	15 - 1261	BF592932, A1660093, A1917105, BE502245, A1435489, A1168436, BF131228, R69799, R67877, R81389, AW170015, R34017, D51015, A1283968, R69800, F08994, F08984, T16467, R81390, R67878, R33479, A1581033, BF981109, AL110306, A1929108, A1538885, AL046944, A1889189, AW858243,





				AL117416.1, AK026784.1, AK025092.1, AF159615.1, AL137574.1, S69510.1, AL162062.1, AB052200.1, AB047631.1, AK000323.1, AL122093.1, BC007031.1, BC008070.1, AL136622.1, AL050024.1, AL133640.1, AK026164.1, AB060879.1, AL137459.1, AL442082.1, U80742.1, AL050393.1, AL110280.1, BC008382.1, AB055315.1, AL137529.1, AL117460.1, AF090900.1, AL117457.1, AL137658.1, AL110222.1, BC001967.1, AK026045.1, AB063046.1, AK027182.1, AL136789.1, AK026927.1, AF111847.1, AF104032.1, AF078844.1, AK026533.1, AL137283.1, Y16645.1, AB060826.1, BC004349.1, AK000445.1, AK000432.1, AJ299431.1, AK000212.1, AK027164.1, AK026608.1, AK026600.1, BC008893.1, AL137294.1, AK027113.1, AF097996.1, AB055370.1, AB050510.1, AK025339.1, AL162006.1, BC001098.1, AL442072.1, AK025484.1, AF11112.1, AL512719.1, AK026647.1, AL359596.1, AB047904.1, AB060825.1, AK026506.1, AF090896.1, AB063100.1, AL137521.1, BC000778.1, AL050277.1, AL122049.1, AF218031.1, AL137478.1, AL133080.1, AL136786.1, D89079.1, AK025084.1, AK025209.1, AK027204.1, AL050149.1, AL050116.1, AK027142.1, AL359618.1, AL353956.1, BC004556.1, AL136586.1, AB062978.1, AL162004.1, AK027868.1, X82434.1, AF353396.1, AF125948.1, AL122118.1, AK026542.1, AL136892.1, AL133072.1, AF057300.1, AF057299.1, AF271350.1, AB049892.1, BC008780.1, AF100781.1, AL162083.1, BC004529.1, AF245044.1, BC005890.1, AB055374.1, BC004951.1, AL122111.1, AK026741.1, AK000074.1, AK026613.1, AB060916.1, AL133557.1, BC007680.1, AF061795.1, AK025015.1, AF151685.1, AL122045.1, AL583915.1, AL080148.1, AY026527.1, AB056768.1, AL122121.1, BC003687.1, AF061943.1, AB019565.1, AF094850.1, AL136928.1, AK026855.1, AL512718.1, AK024588.1, AL049466.1, AB048964.1, AK025967.1, AK026528.1, AL049452.1, AL137271.1, AB060837.1, AL353957.1, AL117583.1, AK025414.1, AB060908.1, AK000647.1, AK026762.1, BC008417.1, U68233.1, AB055368.1, BC006525.1, AF262032.1, AK025772.1, AL137558.1, AL050108.1, U38847.1, AL136845.1, AL080126.1, U42766.1, AL136787.1, AF242525.1, AL137292.1, AL137463.1, AL136799.1, AF285167.1, AK024524.1, AL359941.1.	
HCGMD59	49	636078	1 - 776	15 - 790	AI346379, AW009453, AA477432, AA152289, BE219294, T27069, AI745607, AW852105, AI807602, AA234651, AA024744, BE219304, AA065244, N91858, AI242569, AI091032, BF977615, AI251849, H88431, BE301616, N50522, BE762367, AW607675, F03857, H41152, BE696404, R45373, BE070278, H88369, AL039156, AU133046, AL038837, AL039074, AL039564, AL039109, AL039108, AL037051, AL038531, AL039659, AL039625, AL039648, AL039629, AL039678, AL039150, AL039128, AL037726, T79771, AL040992, AL036725, AL045337, AL042909, AL039423, H53427, AL039410, AL045353, AL037526, AL036973, AL044407, AL039538, AL039386, AL044530, AL036196, AL039924, AL039566, AL039509, AL038025, AL039085, AL037639, AL038821, AL036767, AL043423, AL045341, AL037615, AV743601, H53426, AL043422, AV746102, T24119, T24112, AW975143, AV758878, AL036238, AL043441, AL036117, AL043445, AW013814, AV718844, Z99396, AV738934, AL045794, N91869, AV737584, AW973101, BF294063, BF508972, AV743654, AL036924, AW975229, AW979144, AI535983, AV717989, AV717980, AW451070, AV701782,

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HCHNF25	50	1352270	1 - 3562	15 - 3576	<p>AL528465, AL519763, AL526785, AL520938, BE792140, AL520937, AL527998, AL519764, AL528505, AL526872, BE796431, BE746920, BE383840, BE790802, BE277211, BE253824, BF314475, BE796466, BE515157, AL522365, BE792677, BE561212, BE905641, BE902997, BE744397, AL524630, AL528908, BE514253, BF310540, BF569123, BE906475, BF206368, BF528971, BE887141, BE791917, BG026441, AL522366, BG115233, BF973161, BF568333, BE250017, BE396510, BE903106, BF347981, BF220140, BF128023, BF310318, BE780328, BE267959, BE783597, BF972622, BE397012, BE396688, BF127846, BG105951, BF219907, BF206556, BE789125, BG113261, BF183102, BE893242, BG026796, BE271726, AV753314, BG107642, BF965674, BF185761, AI625920, BF681098, BE909654, BE561350, AW275869, AI738622, AW007183, BE909375, BE784249, BE901071, BE785884, BE621366, AI860983, BE855860, BE252957, AI685085, AW250561, BE260127, AW270016, AI634191, BE300918, BE398115, BE782484, AI709014, BG036598, BE264246, BE294812, BF983181, AI670007, AW131857, AI880395, AW117176, BF104971, AI813518, BE909039, BE621619, BE795421, AV760771, BE394970, BE966882, BG257502, BF037247, AW573314, BE545785, AA203110, BE207736, AW665822, AW188410, AA652478, AW592610, AW248680, AA146975, AI954083, AA147767, AI669418, AI147761,</p>

HCNDR47	51	1016919	1 - 1329	15 - 1343	AA181845, AW241902, BE786856, AI160413, AW732763, BE880512, BE900799, AI081515, BE251158, BF677734, AI203977, BE348436, BE305074, BE296342, BE273772, BF304443, AW005522, BE561489, BF592041, A701486, AW956672, AI567481, AI568647, AI041032, AA974916, W37397, BF313875, AW025321, AA156467, BE207298, AA404355, AA129237, AI718057, AA593316, AA478160, AA464385, AA488430, AA993638, AA806763, AW627783, AW151216, BE350585, AA147827, AI950821, AW015199, AA994961, AI149434, AI123393, AI123891, AI384079, AI439003, AI355387, AA835483, AA553902, A761282, AA588042, AA465513, AA837073, AI334266, AI750141, AA994585, AI927130, AW328560, AA814189, AI074868, AW026369, AW027702, AA418840, AI568234, AI186580, AI560154, W22355, AI032032, AW954170, AA736383, AI479017, AI088827, AI291333, W92231, AA971299, AI188850, AI961528, AA731626, AA488156, AA411207, AA278716, AI189954, AA586725, AI858753, AA478159, BE206832, AA485920, AW959617, AI658538, AW182215, AI263970, BG027674, BF589634, AA808611, AI083503, AI028440, AA972598, AI460137, AI354691, AI366814, AI570826, AI872174, AI633718, AI333776, AW272455, H98820, BF732893, BE395014, AI369603, AA410975, AI277588, AA723380, AI807881, AI130985, AI151181, N64392, AI928081, AA526988, AA635110, AA780721, HI2028, AI278481, AB016492.1, AB016493.1, BC000499.1, AB016488.1, AF115850.2, BC001363.1, BC000996.2, BC001667.1, AF131797.1, BC004239. 1.
					AI621217, BE222897, AA632651, AI950250, AW139452, AW207039, AA505117, U69203, AI949187, AW953975, AI160725, BE348367, AI631345, AA707909, AA535510, BG059719, AI680791, AI700776, HI17406, AA524577, AA062981, AA365529, HI6756, AI699070, AW970783, BE858688, AI696027, BF766585, AV709230, BE220337, AW194354, AA365530, AA678861, BE707377, ALI22003.17, AB007895. 1.
HCNSB61	52	526413	1 - 698	15 - 712	AW964468, AW975618, AV741221, AW966389, AV738928, AW949645, AV727978, AW966053, AV724520, AV701357, AV738340, AV731070, AW978633, AW964532, C14331, AW966330, AW960553, AV742090, AV723247, AV744012, AV718489, C14429, AW352117, AW752082, AV702035, AW753053, AW177440, D80045, AW949642, AV744690, AV718800, AW360811, AV741220, AW178906, AV718692, AW375405, D59927, AV742048, AV718707, AW973541, AV721784, AW753067, AV701125, AW178893, AV701216, AV701166, AV701149, AV742001, D80268, AV649986, AV720791, T03269, AW377671, C14389, AV649974, AV720211, AW179328, D80134, AA514186, AV701224, AV701154, AW966029, AW752110, AW966075, AW966065, AW960465, AW973334, AW966531, AW978634, AW966534, AW179332, AV742667, AV742022, AW966560, AA305409, D58283, AW966022, AV701335, AV742430, AV744662, AV701043, AW959799, AV701332, AV701017, AV701248, AV701431, AW966059, AV723097, AW966013, D59859, AW964766, D80022, AV726390, AW966041, D80166, AW973474, AW966378, D80195, AW975621, AW978648, D80193, AW975613, D59467, D51423, D59619, AV701443, AW978661, D80210, D51799, AW965163, D80391, D80164, D59275, AV720533, D80240, D80253, AW966030, AV719822, AW966054, AV720203, AW366296, AW964756, AW966050, AV719188, AW973307,

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HCNSM70	53	637547	1 - 1075	15 - 1089	<p>AW170355, BF437750, AA781956, AA304933, BG260457, H48606, AW517161, AA088807, BE004003, AV654505, W61215, H77296, A1185059, AW150806, W60968, AA447295, BF3440135, AA336903, BE140648, AA857929, AW572088, A1220250, AW827119, BG122481, A1633419, BF726207, AA580663, AW071417, A1345745, A1886123, AV681726, A1358701, A1698401, A135661, BG168549, BG113188, BG179993, BF727034, BG178911, AW148356, BF970449, AW020095, A1478123, AL079963, AL036396, AA292158, BE904051, BF764516, A1783997, BF816037, BE785868, AV681618, A1500706, BF904265, BG114104, A1927755, BF970768, AV693410, BG110517, BF812933, BG121959, A1538764, AL036146, BG107576, AL039086, BE965432, BE047833, AW673679, AL537364, BF827575, A1537515, BF814420, A1312428, BE964614, BE895585, AV682414, A1923989, A1866770, A1345347, AW059828, BG165051, AA833760, AV755793, BE964981, A1863321, BG035511, A1521012, BG179633, AW806761, BF812936, A1251221, AW022682, AL119863, A1859464, AW129106, A1282355, A1699865, AV704696, AW935969, AW946806, AV682001, BF338465, BG058150, BF527014, AW074993, A1349614, AW022699, BF338002, BF904244, BG034550, BF970990, AL038504, AW051088, A1886192, AA572758, AL036631, A1349256, A1312152, AW269097, BG030364, BF753056, AL119049, AV682510, AW075084, AW073697, BG109270, BG163618, A1349937, AW983691, AV746964, A1921248, A1611738, A1334884, A1307543, A1348897, A1619502, A1677796, A1632408, A1886181, AW079572, AW071412, A1802542, A1307708, A1620089, AA449768, A1863382, A1288305, A1312325, AW118518, A1499285, A1340659, AW983829, A1886753, A1873644, A1570807, AW168485, A1933589, AW026882, A1635067, A1923370, AW130930, A1336495, AW268072, BE138658, A1783504, A1868931, A1784230, AW149925, BF812960, A1537261, BF885000, A1432040, BE047852, A1620284, BF812938, A1334930,</p>

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HCUCK44	54	720291	1 - 1125	15 - 1139	AL532468, BE621866, AL521895, BE621760, BE538472, AL521894, AV734260, AV723629, BE770935, BE790853, AI140351, BE621673, BG168718, BF793790, BE908998, BE545559, BE616433, BE395052, BE621070, BF664130, BE937841, AI859347, AV696398, BG164550, AW977552, BE731169, BE514231, BE312999, BE717043, AV696286, BF726404, BE018100, BE717057, AA121548, AA768342, BF326554, BF430984, AI864674, AA530873, BF338307, BE717061, BE676694, AA127712, AA722381, AI815642, BE281457, BE717055, BF971805, BE795728, AA987515, BE717048, AW275917, AI354682, AI859814, BF686844, BG035461, BF977210, AA74962, AI025466, N92869, AA768339, BE396293, BE301588, AI051671, AW753719, BE965688, AI920875, BE812296, AW089493, BE535563, AW190165, AA417302, AA130959, AA587755, BE717112, AA045598, N21328, AV712375, AA314322, AA844332, AI371694, AW578738, AA100477, AA043186, AI567303, BE717183, R83064, BE891492, BF809525, AI350331, AI039892, AW193146, AA828283, AI952434, BE717068, AI289086, AW377665, AI014387, AA917482, BE560356, AA975893, N21020, AV758595, AV760858, AA621534, H94056, BE218977, BE741064, AA100476, AW406948, AI564973, AA729835, BF594159, AA417265, AI187288, AA045597, AA306867, BE548903, AA661773, BF027132, W04309, H80956, AW615725, AW088039, AI419448, AI952495, N47889, AI083853, AA649285, AI816957, BE927438, BF029994, AA580315, AW103201, R89903, AI289415, N27984, T40562, BF593347, N80197, AA868207, AI018462, D82429, AI873582, AI955989, H81296, BE616655, AW138496, AI833059, AI288157, T91268, R63140, BE044820, BF594190, AA130829, DI2288, AI699667, AW952882, AI942324, AA310276, W22908, AI091426, BE829635, BE829457, BE829712, BE829791, BE829638, AA074395, AA298770, BG165580, DI2293, BE829628, T91580, AV737050, BE536089, AA353671, AA053266, H81350, AI202414, AI832968, AA342277, AW084334, BE833477, W25596, AW886418, BE829841, AA297193, BF382776, AW351513, AW377656, T98269, AA342276, DI2294, BF086669, BF084242, BE833566, BF084293, AI908913, BF084274, AI868829, BE771088, BE817957, BF155956, BF084243, BF084295, BF084296, BF086521, BF084297, BF245513, R83013, BF084208, BF084209, BF084211, BE928501, BF797820, BF086673, BF086541, BF093333, BF089556, BF084298, AI220723, BE928502, BF093356, BF093368, BF093353, BF084241, BF084260, AA344066, BE870474, BF084210, BF086528, BF155939, AA382073, AI310801, BE817887, AI866230, BF093347, BE928490, AA807562, BF084199, BF093349, T85780, AI908912, BF095869, T91628, AA193223, BF095965, BE747715, BE928507, BF377798,

HCUEO60	55	499242	1 - 1208	15 - 1222	<p>AL122042.1, AC007842.1, BC004512.1, AP000892.4, N51146, N74141, W38488, AA100050.</p> <p>AV748967, AV762395, AV761362, AV762397, BG104686, AV760057, BF668217, BF677892, AL046409, AV763971, A1284640, AV761489, A1334443, A1963720, AV728425, BG249643, AV763449, AW303196, AW301350, AV735370, AV725423, AV762111, AW274349, BF541120, AV762098, BF241967, AV763255, AV759274, AV761786, A1270117, AV740801, AV763540, BF337291, AV763670, AV762064, AL138265, BF697673, AW833862, A1023672, AV761843, A1305766, BG167139, A1431303, AW419262, A1133164, AW268973, AW088846, AW193265, AV762505, A1696962, BF131362, BF684828, AW472872, AL138455, BE562953, AW963497, AW965008, AA490183, A1281881, AA581903, AA521323, BF827410, A1610920, AV762092, BF311000, AV760937, AV732891, AV763354, AL042853, AV762535, AW979060, AV759505, AW327868, AL119691, AV762826, AW975987, A1754658, AL038785, A1345654, AW501386, AV762645, AV652936, AV763558, A1613280, AV760777, AV733830, A1064864, BE049139, AV761941, BF680074, AV764307, BF965007, AV702857, AW662543, AV734666, AA491814, AV729809, A1345681, A1679782, AL046205, AW500125, AV759352, AW265393, AV757425, AF330238, BF725504, AV699574, AV764228, H71429, AW974109, AV764235, BG109996, BF915247, AW503666, AW502975, AV759204, AA491284, AV761106, AW518220, AW972871, AA521399, AV725431, A1307608, BE276880, AV759507, AA610491, AV764578, A1345675, AW975049, AW973397, AV762009, AV761884, BF991286, AV735495, A1570261, AL041690, AA680243, AV762959, A1144101, AV760486, AL045053, AA587604, A1368745, BF679304, AV710066, AV760466, BF793766, AV761745, AW969629, AA526787, AV763633, AF074677, A1732865, A1350211, A1890348, AW953071, BE150580, AW576391, AW513362, AL037683, AA469451, AU147104, A1708009, AW410400, F36273, BG222267, AV762067, BG036665, AW872676, BE160727, AV719316, AW270270, AW029038, A1732120, AA482711, AW021583, AV763847, AV742057, AV759172, BF691714, AV713243, AA877817, AW088202, AV729947, AV759214, AW960468, AA682912, AV762139, AW072923, AV759580, AV764530, A1345518, AV760106, A1355206, A1625244, AV760736, AV763122, AW872575, AA468022, AW769399, AV729881, AV760207, BF915628, AW028429, AV759322, AA533725, BF676981, AL042420, A1473943, A1133102, AV759518, AW438643, BE674881, BE046438, AW408717, AV733627, A1457397, AV733732, AW088616, AV762015, AV757607, BG059568, AW162049, AA584201, AW406755, AW975217, A1929531, A1821271, AV756693, AW970564, A1289067, AA629992, AV762154, AU145314, AW970896, A1357901, AV764241, AW956640, A1061334, AW265385, BF130605, A1567674, AA501784, AA394271, A1339850, AW858127, A1561060, AL162252.17, AL354718.10, M37551.1, D83989.1, X55924.1, AF015148.1, AF015156.1, AL133371.3, U18391.1, U18395.1, U18394.1, AL358913.4, X55925.1, AL353812.13, X54180.1, U57007.1, AL391987.15, U57006.1, X54175.1, AF077058.1, AB020859.1, U18393.1, X55926.1, U57009.1, AL390056.7, AC012351.3, AC010623.7, AC007383.4, U02531.1, AL138810.10, AJ298105.1, U67221.1, AC008430.3, AL161896.16, U18392.1, X76070.1, X54181.1, U57005.1, U18387.1, Z84488.1,</p>
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HCUHK65	56	651313	1 - 353	15 - 367	AI161343, AL520380, BG111970, W84487, AA68067, AA931374, AI271350, AI080159, AA970366, AI221950, Z39489, F02802, AA213383, AI205879, N92722, T08346, R42398, AI743040, R37459, C02421, F04701, N92721, AI861833, W84564, BF062378, BG032378, AI190488, AL442092.1, AC004142.1, AB060967. 1.
HCUIM65	57	550208	1 - 861	15 - 875	BE781101, BE540200, AI972511, BE300952, AA464837, BG150212, AI681901, AW172458, AA099207, AW205564, AW408650, AW205714, AA450308, AA636047, AI656442, BF437116,

HCWGU37	59	1042325	1 - 2763	15 - 2777	BE466112, AW575656, AW962721, AW206882, AA099221, AI620473, AA369585, AW469939, AW136836, BE547752, AI638262, BF059133, AA236642, BE551958, AW086133, AI917742, AI623315, AC005391.1, AL445584, 16. AV762098, AV718260, BG249643, BF677892, AI334443, AW965008, AV764228, BF697673, AI270117, AV710066, AI284640, AW072923, AV733830, AV713243, AL046409, BE646496, BF680074, AL138455, AW303196, BF241967, AW301350, AI037683, AL120483, AV760466, AV760599, AA055169, AA490183, AW406447, AV710387, AW769399, AA587604, BF681576, AI133262, AL046205, AI445582, AI281903, AW008212, AV764578, BF725504, AA244357, AI567674, AA521323, BF680041, AA813902, AV763354, AL041690, AV762645, AV763714, AV760042, AF330238, AA521399, AA719292, AV762959, AV759505, AV759204, AV760777, AW274349, AA838140, AA857486, BG167743, AV760937, AI307201, AI538852, AI696962, AI126035, BF676981, BE967369, BG109996, BF337291, AV762139, AL044940, AI963720, AV756693, BF679256, AV761286, AW472872, AV764530, AI672135, AV759172, AA501809, AV725431, AV761925, AW373587, AI076616, AW979060, AV762397, AI654588, AV728425, AW502305, AV760039, AV762050, AI431303, AV763670, AV762064, AV729809, AW518220, BE160727, BF668217, AI064864, BF679274, AA720702, AV763629, AA640772, AA526787, BE779948, BF311000, AW502100, AW963497, AA581903, AI204309, AF074677, AI679782, AV758946, AI917156, AV740801, BF684828, AW167799, AI133164, BG177715, AL042853, AI754955, AV735495, BF984050, AV764241, AV763385, AV764329, AI431232, AW950797, AW021583, AA569167, AA610491, AV682003, BF347791, AA488746, AV757607, AV725423, AW193265, AV710770, BF991286, AI471543, AI679294, AV763540, AA491814, AI538433, AU149045, AI623720, AW265385, AV759267, AU145239, AW473541, AW327868, BE049095, BF797630, AV763449, AV742057, AA837084, BF347740, AV761489, AI732865, BE146711, AI281881, BF965007, AI801482, BG236735, AW410400, AV760378, AL048626, AU155359, BE049139, BF673914, AI144055, AV760774, BF681427, AV761362, BF130605, N23097, AA470969, AW513569, AW193432, AW600804, AW419262, AI049940, AA171513, AI061313, AV728612, AW510513, AV762535, AW088202, AA349366, AI305766, AI368745, BE895987, AW513556, AL119691, AI625244, AI679871, AL138265, BF475381, AV681599, BE253048, AW467362, AA631507, AV763971, BF806176, AW630298, BE872393, AA126051, AI282832, AI345654, AV764490, BF761328, AI500454, AW972312, AW272925, AI457397, AW964365, BF674369, AW501386, AA167659, AW964364, AV764526, BF674823, AV762009, AI350211, AW411430, AC004797.1, AL512430.14, AC068712.6, AC017033.5, AL512307.12, AL354873.19, AC000004.1, AL008718.23, Z97054.1, AC021016.4, AL162426.20, AF123462.1, AC007620.30, AC004848.1, AL121751.12, AP000952.2, AC011464.5, AC003043.1, AP000159.1, AC006449.19, AP003357.2, AC007425.16, AF107258.1, AC004878.2, AP001670.1, AC007782.20, AL031228.1, AC018635.6, AC004867.5, AL049758.11, AC006013.3, AL359236.4, AC004638.1, AC009144.5, AL121655.1, AP001710.1, AL121753.30, AC005291.1, AC006989.3, AC007034.4, AC005969.4,
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HDHEB60	62	499233	1 - 1407	15 - 1421	

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HDPFP29	69	628254	1 - 1043	15 - 1057	AW575379, AA769318, AI796662, BG029535, AW269780, AA809133, AA427866, AW953923, AI419264, AW088714, AI400326, BF945261, AI924874, AI150755, AI623762, AI239506, AI619494, AW148696, AI797909, BE327745, AI634907, AW070513, AI186243, AA768972, AA804195, AW674541, BE221186, AW204520, AA292638, AA235326, AW341643, AI005076, AW004816, AW603880, AW007235, AI871816, BE826643, BF222941, BE826639, BE826631, BE826634, AA292639, BE826687, AW514133, AA627727, AI690331, T05561, AW405407, AI673409, BF814220, AW075831, AI923685, AA931499, H56443, AW083896, BG165971, H56444, H16157, T82850, AW131313, AI249783, AA714383, AA548622, AI810663, BF091047, AA810885, R51826, F21597, AA702095, AI832872, AA832395, BF974513, T34785, AA524210, T16401, T90272, R28256, BE826642, AA262993, BF903485, AA568882, AW075840, AA553317, AI909659, R28033, BF814542, AW970732, AI810273, AI262373, BF000060, AI927452, AI679783, AI272283, BF901241, BE559850, AA742649, BF900830, AA922242, AI439758, AI445719, AI738794, AI625812, AI215105, AA749066, AI275641, BG054585, AA527826, BE143233, AA525108, AI950316, AL522808, BG111850.

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HDPGi49	70	785887	1 - 2669	15 - 2683	AL080060.1, AK026057.1, AK027193.1, AL136781.1, AF002672.1, AL356747.18, AL133560.1, AK026408.1, AF094850.1, AL359941.1, AF003737.1, BC004945.1, AC004383.1, AL136850.1, AB047966.1, AC010972.3, AL359600.1, AB060837.1, BC006180.1, AF132730.1, AL137574.1, AL353745.7, AL162062.1, AF205861.1, AL121601.13, AL136892.1, AL050138.1, AL445236.22, S76508.1, BC004533.1, AF169154.1, AC024247.4, AC004883.2, BC009033.1, AL035407.15, AL138976.5, AE006462.1, AF151109.1, AL138770.3, AB055374.1, AL136844.1, AB056420.1, AF113222.1, AL512689.1, BC006411.1, AL137256.1, BC007198.1, AL122118.1, AJ012755.1, AL035587.5, BC007031.1, AF271350.1, AK027111.1, AF078844.1, AL132985.4, AK026533.1, AC006222.1, AL117463.1, AF245044.1, AC020659.5, AK024601.1, AF069506.1, AL022165.1, AB047878.1.
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HDPGT01	71	771583	1 - 2673	15 - 2687	AL524311, BG251269, BF310537, AU133126, BF683381, BF038290, AW732293, BF316433, AW170099, A1056333, BF349288, AA972732, A1675184, AW177595, BE141799, AW664330, BG056730, AW751928, BE141798, AU157403, A1803604, AW516199, A1421509, A1089433, AA622275, AU154510, AA699595, AW733094, BF838983, A1148225, AA921836, AA701632, A1361562, H75815, AV701643, AA931757, AA825979, BF837455, A1247022, AA035572, A1015040, A1032666, AW167576, T89750, BF349289, H06815, A1168573, A1702086, W42567, Z43621, AA505697, R92850, A1204070, AA724075, H06816, W72651, R93066, W76613, W42546, W86249, AW751931, A1272047, T16739, A1868745, AA860360, A1207229, A1249348, A1073394, AA035062, AA758712, A1204396, T11609, AA649046, A1168656, AA729782, AL110209.1, AL389957.1, AK001705.1, AB017494.1.
HDPHI51	72	460679	1 - 714	15 - 728	AC005946.1, AC018755.3.
HDPJM30	73	879325	1 - 1621	15 - 1635	A1420713, BF951818, R85260, H28149, BF899899, BF594396, AW292642, H44846, BF685411, A1739196, A1867313, BF063759, A1380559, BE504664, AW166357, BE735346, BF064117, AB001535.1, AP001754.1, AP001065.1, AP001064.1.
HDPMM88	74	972734	1 - 4879	15 - 4893	AV715713, BF446914, BG057685, BF898163, A1083524, A1290271, AA318526, BF9332901, R78174, C17785, R77809, BF898707, AW795715, A1638633, BF921994, BF904690, AW016805, AC025040.7, AK025125.1, AC016045.8.
HDPNC61	75	637585	1 - 1396	15 - 1410	AA847865, AA483400, A1016714, A1051725, N62194, BE047259, BE327006, AA483411, A1554330, AW874660, AA933624, N66755, A1825794, AW327616, AA902896, AA725234, A1769182, BF448730, AA054669, R60056, AA594900, H05474, T16298, AA977118, A1671131, AA054722, AA650410.

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HDPOJ08	76	731863	1 - 1641	15 - 1655	BF968799, BF791555, AL513581, BE879926, AI949941, BE827843, BF968555, AI765763, BE875907, AW959968, AW382167, BF692458, BE876162, BF106234, AV713629, AV699640, AW382174, AU136532, BF692025, AA449500, AW902068, AW583040, BF212019, AW382170, AI768711, AI918137, AW235520, AI199832, AI074542, AA243341, AA071031, AL513582, AI308913, BE150978, AW609396, AA604828, AA831297, AI304674, BE151243, AW391610, AA704776, BE150919, AU155999, AW389522, AA878385, BF979062, BE150848, BE150932, AA554171, AI086256, AI285140, W48831, AW379916, BF215357, AW389518, AI361484, AI290204, BE150880, AA679730, AA285176, AI367820, BF570762, AA287652, AI028778, AI342266, AI332795, BE501465, AW609661, AA564884, AA497006, BF432681, BF438907, AA496929, AI742352, BF572848, AA824372, AW582335, AA286805, AA809400, AA101705, BE150881, H50009, AI356809, AI863722, AA449072, AW394227, N64570, BE614989, H66597, BE465872, AU157281, BF792958, AW394207, BE702178, AI860155, BE702109, T96603, BF792810, AW802638, H47883, BE702071, AW391634, AA425753, BE149864, BF766698, BF766705, T96711, R59882, AW816178, AI301234, AA524763, AW582392, AW609367, AA427806, AA243537, H89251, AA297709, BE892299, AI703471, AA284029, W49812, AI458780, AW075621, H89250, AI867621, AW380564, BF912063, H66596, AW380556, AW814225, AW380562, AA730264, R59881, AI433332, AA210752, AA863154, BF513435, H47884, AA211712, C00853, AU137710, AI269992, AW337692, AA489590, AA070527, AA101704, AW391666, AA296965, AA296966, AA497092, AI570809, BE673630, T25724, AW582435, BE150974, AW391617, AI954461, BF999751, AW152174, BE876251, AI587112, BF764712, AW816180, AW102931, AK024215.1, AK023478.1, AB014732. 1.
HDPOZ56	77	1352319	1 - 1891	15 - 1905	AI859620, AI830021, AI949469, AI887204, AI218392, AW194364, AW511272, AI307671, AA970014, AW582666, AW609988, AI873619, AC011452. 6.
HDPPN86	78	1037893	1 - 6283	15 - 6297	BE250002, BE394338, AW935469, AW749660, BG250570, BF982358, AI821271, BE541597,

					AI313180, BE293706, BE872198, W22478, AW976010, AI002815, AW963152, AU117456, AV762145, AV760760, BF792326, AW965008, AV764490, AW837083, AV700498, BG032943, AW600804, AV733710, AV759172, AA680243, AU123691, BE908796, AL037632, BE796439, AI076616, AW406162, AI732120, BF339640, AV700988, AA484962, AV699709, AW965642, AF074667, BE902459, AV760599, BG164166, BE273856, AI313166, AU118745, BE387734, AW961994, A381195, AI364780, AU159301, AV761286, AU722372, AU158602, BE154495, AL044000, BG250302, AL041706, AL040921, AV700545, AU145083, AI817516, AV729960, AV760258, AW820787, BE071876, BF965477, BE071877, AW974126, AV759362, AI565581, AI284640, AI963600, AI608771, AL048626, AW440545, BF677892, AI204304, BE902975, AW317075, AA836811, AW088224, BF337291, AA634072, AI350211, AV704375, AV760777, AW193265, BF668217, AI133164, AV762395, BF736198, AW953071, AU157011, AW833862, BF241967, AL046409, AW995093, AV711987, AA491814, N94311, AI431303, AI963720, AW276817, BF828714, AI613280, AV762098, AA601355, BG249643, BF697673, AF330238, AV760937, AV728425, AW080939, AA599480, AV740801, BE156019, AI924251, AA469451, F36273, AV658688, BF055844, AI289067, AL119691, AV763354, AI061334, AV763971, BG058664, BF680074, AV725423, AL045053, AW970915, AW975425, AI471481, AI305766, AL138265, BE350475, AI679294, AA205915, AI754955, AL137737.1, BC001041.1, AK000310.1, AC010366.5, AC005280.3, AL137852.15, AC022148.5, AC004263.1, AP001666.1, AP001630.1, AE006463.1, AL354932.26, AC005484.2, AL590762.1, AF088219.1, AC007782.20, AC004134.1, AC005288.1, AC011811.42, AC005911.6, AL161656.20, AC072052.6, AC009470.4, U47924.1, AC004859.2, AL035587.5, AL162505.20, AC073138.3, AC025166.7, AL359552.16, AC007954.7, AC034242.5, AL139317.5, AC011455.6, AL022724.2, AL109965.34, AC068533.7, AL161779.32, AP000359.1, AC010271.6, AL109825.23, AL122013.5, AL163282.2, AC020893.5, AC005324.1, AC005257.1, AC003009.1, AC010148.13, AC005011.2, AL109935.39, AL049759.10, AP000901.5, AL354928.9, AC009144.5, AL163853.4, AL109805.14, AC009086.5, AC009996.7, AE000658.1, AC016898.6, AL590076.3, AC008543.7, AC005670.1, AL591770.1, AC007204.1, AC006251.3, AC009122.8, AL034550.31, AL136418.4, AL139054.1, AC006345.4, AC004821.3, AC011497.6, AC003006.1, AC004678.1, AL117351.12, AC000118.1, AL512430.14, AC008622.5, Z93023.1, AC008379.6, AC006435.7, AC006211.1, AF196779.1, AL357515.26, AL049776.3, AL133448.4, AC004675.1, AL137818.3, AL354720.14, AC079753.7, AP001619.1, AC044797.5, AC011236.8, AC020906.6, AC010422.7, AL050328.24, AL109921.21, AC005771.1, AC005234.1, AL136223.11, AL121928.13, AC000075.2, AL163279.2, AL050349.27, AC020558.4, AC005488.2, AC004997.2, AL450339.5, AC004876.2, AC005844.7, AL023575.1, AL121658.2, AC007683.5, AP000553.1, AC008745.6, AC009131.6, AC004596.1, AC004826.3, AL160163.24, AL031597.7, AB023049.1, AC016769.10, AC006064.9, AC005664.2, AB053170.1, AF001549.1, AL590964.8, AP001726.1, AC025593.5, AC018808.4, AC007052.4, AC007011.1, U95742.1, AL035422.12, AP001689.1,
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HDP5H53	80	1309174	1 - 1649	15 - 1663	<p>AL515990, AI307612, AW079047, AI334650, AW874319, AW139828, AI364431, BE242397, BF726322, BF724691, AI568870, AW268253, AI688831, AI433976, BF795712, BG058208, BF883916, AL119049, AL135661, AL513911, AW303152, AI567632, AL121270, BE047863, BF343172, AI673256, AI679724, BE048071, AL036146, BE785905, AI500553, AI349645, BG168696, AV682521, BG250190, BE964812, AI567351, AI349772, BF971016, BE964700, AW827203, AW235035, BG036846, AI863014, BF812933, AW162071, AI608667, AI436456, AL047042, AI064830, AI349933, AL046849, AL687376, AL515041, AI815383, AL513597, BE905408, AL513553, AL513907, AL514919, AL514803, AW071349, AL500077, AL702406, AL047763, AW999049, BG179993, AL036396, BG107847, AL690751, AL045500, AL433157, BG232929, BE877769, BE048179, AL119791, BE965556, AV755290, BF054789, AL687728, BF673434, AV682266, BF981774, AV727776, BE966388, AV682249, AL513741, AV681872, AV682289, AV682266, BF981774, AV727776, BE966388, AV682249, AW089572, AL873731, BE048081, AL036759, BG033403, BG151247, AL514627, AV710608, BG178809, AV655645, AV682672, BF793644, AL440426, AL120736, AW117882, AL121365, AI969567, AL281779, BG259801, AV733819, AW827211, AL515173, AI349256, AL036802, BE018711, AV762488, BG108324, BF968493, BG260037, AV755581, AI687362, AL119748, AI312152, BG257535, AV756067, AI889203, AI349937, BG029399, BG180996, AI686926, AL513693, BE887488, BF817392, AL513803, AW103371, BF036115, AV758668, AV732941, AV711509, BF342709, BF726297, AW195957, AV681647, BF968041, BG108147, BF726001, BE967113, AI521012, AW238730, AI349004, AV757797, AL513837, AV682466, AI366549, AV726951, BE777769, AV723953, BG112879, AV681759, AW074993, AA640779, AI343112, AL036980, AA613907, BG109270, AI340582, BE781369, BG179633, BE048135, BE048163, BF037097,</p>

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HDPSP01	81	I352280	1 - 2329	15 - 2343	<p>BE876951, BF791762, BF112057, BG179551, AV752013, AI091429, BF001176, AV752703, BE391989, AI871101, AI458302, AW292744, BF196320, BE391322, BE390919, BF058297, BF435913, AI560217, AI808718, AI658996, BG056475, AI199318, AI381895, AI814608, AW190726, AA047000, AI479404, AI660983, BE388064, AA419038, AA035467, AW517227, AI361637, AI863893, AI198435, AI078128, AI093316, AI403129, AA42664, AA725194, AI831358, BE206128, AI274339, AW297826, AW104389, AI948638, AI261248, AI869935, AA915909, AI283200, AI871060, AI269385, AI769275, AI200508, AI566171, AI275083, AI857306, AA910327, AA046943, AI291474, AI291805, AI983969, AW070742, AA423792, AW339900, AI308118, AI869944, AA012994, AI677732, AI913920, AA661657, AA427407, AI197804, AI141350, AA725186, AA954707, BF111675, AI864014, AI051823, AA864187, W24931, N41835, AA031475, N92812, BF734297, BF733728, AA035466, BF000025, AI026152, AA514348, R70380, AA961077, AA031617, AI673156, AA250784, AA378564, AW051192, AW452102, AA411122, AA886656, AW293787, AA012993, H91665, AA927216, AW149476, H91759, T86488, BC006411.1, AC022007.3, AC018809.4, X87479.1, Z22384.1, Z22374.1.</p>
HDPSP54	82	744440	1 - 3077	15 - 3091	<p>BG256849, BG261011, BG178729, BG110345, AI923220, BE466885, BF667257, AW271504, AW243442, BE466659, BG171469, AV661528, AW271637, AW516811, N36059, AI804888, BE882420, AI650826, BF815232, AW964507, AI921747, BE936373, BF984751, BG259707, AI392784, AW076096, AI807747, AW103424, AA604757, AA633209, AW778887, AW418987, AW242326, BE622192, BF666519, BF978796, AW014203, AI925261, BF853590, AW131363, AW514756, N33223, AI819108, AI126250, AV649748, AI953896, AV714556, AI524472, BF697124, BE218100, AW629098, N21567, AI694687, AI700209, AA731730, AA577191, BE219931, N33824, BE567212, AW778908, AW087660, AI990562, BF792681, R52426, AI559108, AA743389, N35579, N25189, N30972, BF667662, AI339587, N24947, AI376459, AA742979, N27426, R23308, AI125720, AA954281, AI801129, AW087669, AI701246, AI245517, T26975, BF572334, BE177998, BE564497, AI636147, AI640713, N41938, H97662, AI243263, BE967025, AI572028, BE543895, H29641, BE762905, BF246305, Z46022, H29640, BG223352, AI270534, AI983198, H99399, BF965116, BF692452, Z42169, AI521060, BF102948, R82562, AV646807, N34709, AV646406, R23233, AA373475, BE005657, AA319637, T34245, BG104469, W20047, AW962829, BF572695, AI369988, AI741908, BE830524, H29549, D78710, Z41637, H29548, AA833897, AI367191, AA659275, AW899997, F01708, BF697465, AI246035, AI219239, BF154447, AI221561, AI273738, AI281168, BE005723, BE170424, AI685342,</p>

HDPTDI5	83	692917	I - I382	I5 - I396	BE882847, AB007962. I. AA428414, AL042853, AA363501, AA723017, AA513999, AI547286, BE072237, BE044986, BG008598, BE153851, AA642060, AA363207, AA828704, CI5073, AU147529, AA369477, AW974890, AA483034, AA593060, AI285521, AA502103, AA558697, AA310158, AW851028, F26152, AA515435, AA828680, F36373, T66105, AA658235, AA551509, AA634227, AW844234, CI8357, BF805334, BE958096, BG056233, BG059938, CI8360, AA084863, AI133164, BG056088, N43757, BF769505, AA715609, AA419263, AA503947, BF869171, AA653964, AA301813, AW673241, AA450199, AW580735, AA557686, BE153330, AW589633, AI921649, AV709707, AA318652, AI376100, AW955577, AW276435, BF438574, AA021552, BE072020, AW664161, AA715362, BE221335, BF827669, AI453383, AW074059, AI356904, AI564284, BF743037, AW994731, AV759464, N66067, F25593, AI355206, BF769371, AI922654, AA747480, AW575719, AA829106, AA364701, AL041706, BE206021, AW274349, AW953770, AW089789, F36273, H58672, BF940837, AW169136, AI446464, AI372413, AV700545, AV699709, AV700498, AW303196, AW301350, T08638, AU158130, RI3151, T96279, AI284640, AA654998, AV700988, AA364193, BE153327, AW249835, AA136829, AA309874, AC020728.4, AL137787.11, AC068533.7, AP001752.1, AP001053.1, AC004941.2, AC005166.1, AL021579.1, AC008013.8, AL133479.11, AL139022.4, AB016897.1, AL138718.17, AL096712.20, AC037423.16, AC004884.1, AC008733.7, AC007163.3, AL137794.5, AC007312.1, AC078929.27, AC007285.3, AC011533.6, AC009194.8, U95740.1, AL121934.17, AP00144.1, AC006449.19, AC007628.3, AL031591.19, AC027126.4, AC011475.6, AC004672.1, AL137068.10, AC007318.4, AL390798.3, AC012076.4, AC008651.7, AL121893.21, AI295844.1, AL118520.26, AC090937.1, AC004593.1, AJ277546.2, AL139331.19, AP001132.4, AL035681.13, AP001331.1, AC016721.11, AL035413.19, AC009950.6, AL021786.1, AC002429.1, AC007536.9, Z69918.1, AC005625.1, AL161665.5, AL138703.10, AC016831.1, AL031275.1, AP001627.1, AC009516.19, AC006028.3, Z98200.8, AL359400.4, AF029308.1, AP001747.1, AC090514.1, Z86062.1, AC005837.1, AC018797.4, AL109802.6, AB017602.1, AC034305.6, AC005888.1, AC078841.4, AL353597.20, AL031736.16, AC010170.3, AC024571.4, AC005799.1, Z23567.1, AC005225.2, AL109799.6, AL109965.34, AL121928.13, AC024341.9, AC015550.18, AL590106.7, AC010269.5, AC018751.30, AL121890.34, AC068193.7, AL137077.31, AC015651.18, AC004933.1, AC021092.1, AL138706.9, AL137244.28, AC006976.2, AC020663.1, AC008546.6, AL022323.7, AC010235.6, AC006536.2, AC004010.1, AC010489.4, AF064857.1, AC007011.1, AL159977.10, AL160032.14, AC010651.7, AL109804.41, AL031683.2, AC008569.6, AL451049.11, AL391478.14, AC005696.1, AC004453.1, AC024561.4, AC005703.2, AC004905.1, U22376.1, AC004158.1, AC012380.1, AC002400.1, AP001628.1, AL136308.4, AC066612.7, AL139095.15, AL356601.14, AC005215.1, AL356776.21, AC006435.7, AF312032.1, D83737.1, AC009068.10, AC009319.19, AC010134.4, AC005792.1, AC022007.3, AP000252.1, AP001717.1, AP000553.1, M87918.1, AC090042.1, AC005052.2, AL512363.11, AF224669.1, AC002395.1, AC011739.7,
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HDPWU68	84	812737	1 - 1734	15 - 1748	
HDPWN93	85	992925	1 - 2665	15 - 2679	AL518824, AL518825, AL528951, AL528952, BF339524, BE546359, BF966792, BE736522, BE737435, BE883235, BG109398, BE314676, BE787143, AL534022, BF446115, BE894833, BE870112, BE881800, BE258349, BG250236, BF196311, BE894832, AW769380, BE262368, BE882948, BE259378, BG251409, AA432202, AI890824, AI753494, AI651671, AA993211, BE246045, AW001898, AL039524, AI800905, AI246773, AI682295, AI658613, BE273831, AI631136, AW189302, AI372827, AI050708, AA531521, AI346388, AI683842, AW296359, AW372955, AI685246, AI589722, AW271749, AW804759, BE548044, AA622365, AI352313, BF906035, BE163138, AI088281, AI372826, BF109450, AI015389, AI539826, AA349564, AA448189, AI760986, BE882927, BE247210, HI15544, HI15545, AA349563, BF924519, BE245469, AW804423, H09846, AI991731, AA320029, AA383782, BF804839, HI15604, W67789, HI15603, AI015277, R33930, BF869179, AA543091, AI469944, R48594, BE301391, H09761, AA830547, AA505499, BF809086, AA320560, BE273649, AA326027, R79459, AA322654, L32015, C20992, AI828309, AW117647, BF000032, AW190887, BF736822, AW262975, AA317254, AA143736, BF381075, AW103622, AW050451, AI609346, BE720302, N21451, AI905534, AA282625, AW007401, AA284991, AA621245, BF841809, BE146295, AA143707, AI811818, BF326108, AA393671, BE242665, BF746024, AI678229, BF799280, AA429592, AW407359, BE075823, AK025000.1, AK025622.1, AC004590.1, AF086245.1, AP001434.1, AP000161.1, AP000020.2, AP001731.1, AL137367. 1.
HDPXY01	86	879048	1 - 752	15 - 766	AW860154, AW860153, AW821875, BE869510, BF094022, BF337555, BF527692, AW845544, AW176604, BF734241, BF928740, BF360615, BE169703, AJ230819, BF734231, AL133649.1, AJ271791.1, AJ271790. 1.
HDTBD53	87	972757	1 - 2789	15 - 2803	AL521719, AL039239, AL522288, AL521718, AW850549, BE745185, BG036401, BF971064, BF982318, AV752274, BE410288, BF970662, BE179100, AA115485, BF037889, AI903708, W74580,

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HDTBV77	88	785879	1 - 2167	15 - 2181	BF689672, BE387282, BE988209, BE386984, AA393894, BE893192, W22615, AA134750, BG006306, AI769121, BG006608, AA808986, AA367857, AA344170, BG013403, BF368795, AA367892, AW605363, BG006302, BF932070, AW948496, AK027375.1, BC004282.1, AK027831.1, AK027849.1.
HDTDQ23	89	1306984	1 - 2193	15 - 2207	AI872206, BF966561, AW513884, AI912340, BE856991, AI758821, AW337178, BE327923, AW004890, AI572080, BG109128, AW058001, BF342854, AW886887, BF967940, AW474823, BF337371, BF591084, AA775261, BG164538, AA831357, BE087219, AW074361, AI361820, BF696525, AI982775, BF793075, AI690445, AA581345, AU156793, AI917776, D20022, AA825538, BF382552, AI360561, AW439592, AI798286, AI140796, AI277190, AA100279, AA485257, AA835492, AI522238, AW517943, BG035022, AI015234, AA706811, AI469550, BF197859, AI689240, AW265061, AI744762, AW450726, AI884872, BE714642, BE138867, T34498, BF213985, AW769512, BE073192, AA122332, BE138831, BF090537, AI811224, BG167993, BE932894, BF980823, AI355770,

HE2DE47	90	619852	1 - 3519	15 - 3533	AA092467, AI471817, BE904497, BE719958, AI702026, BE171537, BG166879, AI597962, BG180321, BE171499, BF914841, BF967213, BE932875, AI681670, AA089786, BE327680, BE219939, BF032916, AU136610, AI624976, AK001917.1, AF035606.1, U58773. 1. AL517387, AL526769, AL526907, AL523193, AL523194, AL515001, AL515002, BG030741, BF980577, BE903049, BE729941, BG163644, BE966268, BE067770, BE613706, BE780216, AL138389, BF196312, BG177870, AI041824, BE902470, BE384275, AI123426, BE384622, BE298710, BE067771, BE298416, BE885382, AI432657, BF966758, BF979153, AI708574, AI814491, BF036235, BF437789, AI720253, AI201638, AW182430, BF692903, BE867186, AA911185, BE748929, AW189237, AI432659, BE223052, AI687145, BF382011, BE564813, BG036747, AI024779, BE268867, AW029376, BF028837, AI024507, AW880654, N47923, AA706430, AA563625, AW662575, BG111471, BE748409, AA232692, AA864782, AI016478, BF676114, AW966708, AW958178, AW513800, AA010686, AI376397, AI081671, AA976495, AW167417, N98819, AA648548, AI721089, BF574678, AA311869, BF331286, AW731669, BE166594, W73934, BF110011, BF247329, BF382964, AA718927, N66559, BE832805, AA679466, AI224843, AA972211, W72314, AA664363, AI218733, AI571934, AA703942, AI690284, AW629428, N93202, AI350756, W28597, AA251850, AA688326, AA659803, AA143217, AA626686, BE614598, H96804, AW008436, BE693652, AA071465, AI041197, AA196284, AA010687, AA199756, Z30115, AW275267, N79354, N29375, AW151589, BF900837, AA935300, AA836130, AW673688, AW978790, AA777494, AW090055, AI090119, AW468015, R52190, T57886, AI992225, AW303565, AI364081, C18513, H64124, AA761409, AW024044, AA988587, AW511332, AW009882, AA332452, AA126237, BF816114, AA587628, AW674842, AI654600, H28730, AW519184, AA722914, AA568222, AA766768, AA452758, AI660131, T80441, AA743252, AI301049, AI582560, AA354888, AI192985, AW881224, AA659807, AA111908, AA384439, AA550787, AW591943, AV737948, AI991751, AW881220, AA768293, BF836804, AL517386, AA452580, R52095, AW194374, AI734966, AI094526, AI368645, AI933697, R39012, AA641785, AW881273, AA731215, W93220, AW881163, BE832836, AI362123, AA306249, AI028585, F09225, AA251954, W38817, R77126, W99334, T90405, AA085837, AA302983, HI6312, AV739270, T85557, AA126402, AA380638, AA729885, N69096, AI955495, R54396, HI6372, W93221, AA196142, AA974211, AA609032, AA922821, AA234384, AV744357, AA295432, AV739678, T97675, AA470710, AW938060, N62386, F04755, AI696775, AA298259, AA298571, BF939879, AI760728, R77125, BF367979, AA376505, AA865813, AA298871, AA492599, AW673976, BG253501, AI933856, AA306725, AI363737, AA999867, R25590, AA360269, R26986, AW593198, AI024271, R53081, AA143216, BF797376, BE855704, BG230502, AA380483, BC002597.1, AF180473.1, AF113226.1, AK000662.1, AB049862.1, AF147398.1, AL137674.1, D17008.1, D17177.1, T57968, R54395, H64171, AA010441. BF431622, AL035942, AW500190, AW889139, AA136080, AW304923, AL035941, AA491000, AW002842, AA992811, AA747222, AW189910, AW026264, AA679646, AA953459, BF910533, BG179993, AW162118, BE408392, AA505898, AV682249, BF982063, AL049442.1, AL122116.1,
HE2EB74	91	513662	1 - 1420	15 - 1434	

HE2NV57	92	740750	1 - 853	15 - 867	AK025435.1, AL110223.1. C05927, R72949, AA327984, AC084730.2, AC016673.5, AC004929.2, AC016716.6, AC008066.4, AC003969.1, AC024082.6, AC002302.1, AC013246.13, AC011490.7, AL158064.16, AC084729.2, AC078851.4, Z98743.1, AC020610.6, AF195953.1, AC016910.5, AL359394.9, AC005227.2, AC003692.1, AC016776.6, AC002300.1, AL451107.6, AL157838.24, AL031737.2, AL050335.32, AC007690.11, AC004541.1, AL022401.1, AC018796.4, AL358913.4, AL008583.1, AC005868.1, AL133383.10, AC006070.1, AC006211.1, AL359680.4, AL158035.14, AC087072.2, AC009424.2, AL391686.10, AP001684.1, AC006013.3, AL356461.15, AC016598.5, AP002980.2, AL158817.11, AL035685.21, AC034251.5, AC006134.1, AC020906.6, AL391241.21, AC015983.7, AP003470.2, AP001889.4, AL357519.19, AC087430.2, AC005081.3, AC005886.2, AC018509.5, AF277315.3, AC010913.9, AB020875.1, AJ011930.1, AL163300.2, AP000952.2, AL133387.8, AP000953.2, AL162503.12, AC025765.5, AP002342.3, AL445232.5, AC023114.5, AC004891.1, AL355792.8, AL163280.2, AL109662.3, AC010206.8, AL049843.18, AC017076.14, AC009362.8, AC005015.2, AL096791.12, AC002487.1, AC010726.4, AL353752.6, AP002846.2, AC005344.1, AC022363.24, AC009498.3, AP001699.1, AL138976.5, AC008064.2, AL357507.9, AP001670.1, AL137061.12.
HE2PH36	93	570903	1 - 1544	15 - 1558	AA329666, AA664883, AL133353. 6.
HE8DS15	94	847060	1 - 2185	15 - 2199	AV725650, BE161426, AW130367, BF343057, AA127680, BF575221, A1096437, BF941499, W58383, A1161240, N95226, AW966449, A1356752, A1093508, A1057144, AA044288, AW130361, A1423547, A1221152, A1094774, H47283, A1352542, A1891136, A1002491, T53270, AA044116, R48378, R24320, AV658066, A1829703, A1819388, BE140169, Z44849, R16574, T39273, AA095159, Z25099, AW273857, R16633, AA384077, A1245095, AW026140, T93764, BE927909, N73937, AW118768, AA121543, AA995178, A1453845, AA703455, A1452494, AW044037, H40993, R48277, AW629019, T64039, AA904647, AW073189, W21055, AW263913, A1096938, Z28777, W03697, AW797518, A1039546, A1434419, AW050649, BG003285, A1240412, AA886341, H23905, A1695284, A1767991, H47284, A1309041, BE927916, AA724059, A1352281, A1584012, AA618131, AA357401, A1796309, BE936061, AB018301.1, AL096772. 5.
HE9CP41	95	560625	1 - 1378	15 - 1392	BF032830, AL121944.14, AL138700.18, AL132988.4, AL138805.8, AC018695.6, AC005305.1, AC015853.8, AL049637.43, AC005536. 2.
HE9DG49	96	1299935	1 - 703	15 - 717	BF508798, A1829099, N25625, A1126506, A1200037, A1128843, AW024969, N34223, AW450603, AA743134, N36303, AW020616, A1217597, AA605122, A1160533, AA729493, AA568193, BE857354, AA568681, A1695490, BE855663, BG054946, N26904, N24885, W52651, A1802647, A1312534, AA648514, N72137, N35103, AA806507, AA729125, N34254, A1219599, H86995, N39790, R73200, N26781, A1032141, N25653, H86994, W00385, R73137, AW298649, AA296449, N28403, R26304, AW452862, AW453038, A1299683, AA988539, A1141901, W52017, A1039557, AW236299, AW515490, A1361669, A1674252, AA768761, A1452444, AW629545, A1984739, AW074182,

						<p>AW583163, T25829, AI805445, N20053, BF958127, BF964329, AA543074, BE081422, T25828, AA358828, BE152130, AA653691, AI362330, AW606102, BE170656, AF238079. I.</p> <p>BG119433, BG248347, BG109710, BE383397, BF310661, BF035847, BG111960, BE740887, AA872710, AW051637, BE904996, BE620053, BE294553, BG026514, BF036166, BE378983, AV716604, AI300158, AV710056, BE257692, AW778814, BE879729, BE258999, AW592818, BE261359, AA044747, AA044799, AA878925, AI921790, AI469932, AA947927, BE251176, AA058505, BF245674, AA934688, BF310228, BE567185, AI299177, BF312584, BF243996, W38688, AI453622, AW749554, W95793, AI277337, BE271728, AA903577, AW874395, AI309289, AV712772, AI085685, AW118921, W95680, AI948425, AA934482, AI303007, AW601910, AI419931, BE440006, AW342036, AA053139, AW291750, N92290, AA962740, AW749576, AW954824, AV737047, AA055227, AV713230, AW749583, BF304421, T87073, AI371426, AV756120, AV681938, BE794262, AI143381, AI097662, BE258966, AA037518, N25835, AA912713, H71267, W80906, W80813, AA315305, AW374030, AW300889, AW300782, BF909052, AA037362, AI247237, BF336991, AA657605, AA541343, AA878777, W24468, T81887, AA054464, AW374000, BF216378, AI016169, AW374003, AA055226, AA213429, AW384982, BE067202, D20873, AI831636, AI038897, AW795930, BE327096, W31033, BF036705, W86895, BF792783, BF513528, T87074, AI361634, AI311824, BG036220, AW302965, AI307446, AI345737, AI345736, AV735576, AI345666, AI335476, BC000573.1, AK024569.1, AL136930.1, AL590002.7, AB060912.1, AL136754.1, BC008485.1, AL137294.1, AK024978.1, AL137459.1, AK000718.1, AF155827.1, AL117460.1, X72889.1, AL389939.1, AL080156.1, BC003104.1, AK000445.1, AK025632.1, AK000323.1, AB056421.1, AL080148.1, AL133104.1, BC007920.1, AL136747.1, BC006458.1, X86693.1, AL137523.1, AK026408.1, BC004951.1, AL050172.1, AL122098.1, BC008649.1, AK026642.1, AK025209.1, AB046642.1, AK025312.1, S77771.1, BC000725.1, AF002985.1, BC006119.1, BC008387.1, AL512746. I.</p>
HEBEJ18	98	701802	I - 671	15 - 685		
HEEAQ11	99	777843	I - 907	15 - 921		<p>AW572915, BE500968, AI631708, BF056783, AI638675, AW024125, AA812885, AA911102, AI651682, AA758532, AA934362, AW104268, AA968716, BF223496, AA496078, AA608859, AA973942, AW418725, BE041425, AA931770, AA513329, BF056762, AW975618, AW949645, AW964468, AW966389, AV724520, AW966330, AW973541, C14331, AW960553, AV718692, AV702035, D80195, C14389, AV718489, AV719468, AV718800, AV719822, AV719324, AV718707, C14429, AV718931, AW366296, AA305409, AW966534, D59619, D80210, D80166, D80240, AW973488, D81030, AW949656, AW949642, AW965185, AW965197, AV720211, AW966075, AW978634, AV723927, AW966065, AW949653, AW962245, D80212, AW966053, AW959799, D80219, D59859, D51423, AW973474, AV699550, AW966050, AV719783, AW975613, AW965196, AW965184, AW978661, D51799, AV720464, D80253, AV718770, AV720731, AW966029, AW973307, D51060, AV718938, AV718633, AW975605, D59610, AV720878, AV719557, AW960465, AV699447, AW958993, AV722801, AW973334, AW959136, AW966531, AW949646, AW949654, AW959202, AW966013, AW960473, D58283, AW966022, D80022, D80366, AW964756, AW975621,</p>



					<p>AW964477, D80188, AW966041, AW965163, D80391, D80164, AV718844, AW959582, AW966054, AW966059, AW958992, D59787, AW978648, D59022, D59467, AW949631, AW949643, AW949618, AW949655, D59275, AW960454, AW973330, AV720791, AV720203, AV719188, D80043, D80227, AW966062, AW956434, AV718440, AV720028, AW959597, AW959628, AW965177, AW959570, AW973485, AW965175, AW973482, AV700229, D57483, D59889, AW959062, AW964488, AW949641, AW962082, AV699927, AV738340, AV723097, AW966043, D80269, D80196, C15076, D80024, AV699866, AW949658, AW949657, D80241, AW956397, AV699746, AW949629, D59927, AW375405, AW964737, AW973447, D80038, D80193, D50979, D50995, AV700889, AV744690, AW949630, AW966030, AV720150, AV721386, AW965158, AW949633, AW949632, AW966032, D80378, D80045, AW753053, AW966023, AV718530, AV720812, D51022, C14014, AW960532, AV701004, AW960564, AW959469, AW960504, AW177440, AV744012, AV720533, D80248, AW975623, AW973490, AI905856, AV701125, AW752082, AW962395, AV701166, AV701149, AV703738, AW973445, AW964532, AW966368, AV720151, AW966397, AV720220, AV705869, AV720616, AV742732, T03269, AW973465, C75259, AW960570, D80133, AW178893, AA305578, AW966369, AV699669, D80302, D80251, AW973473, AW965176, AV727978, D81026, AA514186, AW966378, AW966386, AW966331, AW966398, AV706147, AV719913, AV720654, AW966399, D80522, AL121894.26, AF058696.1, AF271371.1, AB028859.1, X67155.2, D34614.1, D88547.1, AB002449.1, D50010.1, AB038216.1, U79457.1.</p>
HEGAH43	100	532596	1 - 428	15 - 442	<p>AA400429, AA994981, AA846419, AA453384, AI015471, AA92965, AA400538, AL360078.16, AL236910.1, AL236909.1, AF327147.1.</p>
HELHD85	101	847372	1 - 1872	15 - 1886	<p>AL284640, AL138265, AL046409, BF677892, AW193265, AV760937, AW969629, AI431303, AV760777, AI613280, BG249643, AW407578, AI281881, AV763354, BF130107, AI345654, AV728425, AW502975, AW965008, AI334443, AV710066, AW419262, AI350211, AI801482, AW473163, AW238278, AI754658, BF668217, AF330238, AI754253, AV762139, AI963720, AV725423, AV728928, BE895987, AW303196, AW274349, AL119691, BF681427, AV762098, AI133164, AW438643, BF827410, AA581903, AW970848, AV762009, AI270117, AI076616, AW301350, AL045053, AW265393, AW021583, AW833862, AW276435, AL138455, AW974109, AW439558, AW327868, AV762050, AV729960, AL041690, AW276827, AI890348, AI567076, AV761362, AL044940, BG109996, AW004911, AF074677, AA720702, AV764578, AV761489, AI305766, AW500125, BE047069, BF970654, AU145393, AV735495, AW731867, BG236735, AV764398, AI421841, AL042753, AW960468, BE206443, AI624142, AA621858, AV761925, AV759172, AV702857, F36273, BG222267, AA164251, AI799642, AI249997, BF793664, AU147104, AI708009, AV763971, BE389111, AV734666, AV762067, AA491814, AV761106, BF697673, AI434695, AV740801, AV759117, BF241967, AW265385, AW062724, AV763122, AW265009, AL037683, AW103758, BF940837, BE350475, AI305547, BF475381, AL121235, BF337291, AI192631, AI821271, AA469451, BF942454, AL042420, AI341664, AV710774, AI053672, AW973397, AI623720, AI903462, BF680074, BF793766, BE674881, AV763550, AL048925, AV760042, AW073470,</p>

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HEOMQ63	102	603533	1 - 1322	15 - 1336	BG026315, AW102828, AI659843, BE551400, AI640582, BE208434, BF510823, AW955647, BE669917, AA789132, AA923523, W44769, AI346827, AI092608, BE267189, AW450220, AI350733, AW090676, AA830093, N98535, N69933, BF694104, AI000893, AI379944, AW968025, AA252680, AI202595, N32022, AL522177, AI026801, BF514413, AA075433, BG014214, AW452208, BE694426, BG171349, AI335272, AI634906, BE796712, AA846518, AA954350, AL522176, AI863776, BE265224, BF359220, BF359223, AW386074, BG112515, AV662306, AA973539, AA329532, F22685, AW136310, N28654, BG014217, AA610002, BG014216, C02160, W37089, N51549, AA361150, BC005984.1, AL109657.8, AL161659.17, AK025977. 1.
HEPAA46	103	596830	1 - 1115	15 - 1129	AA835052, AL220434, AA335178, AA905529, AL031650. 22.
HEPAB80	104	1307790	1 - 785	15 - 799	AW274007, AI677890, AW510786, AW468943, AA335322, AI807924, AW172560, AC006116.1, AC011506. 3.
HFABG18	105	847073	1 - 1331	15 - 1345	BF570393, BF569907, BF344166, AA758023, W63573, AA877107, AW664584, AI924890, BE207784, AI422142, AI811174, AI891097, AI379416, AA631138, AI129321, AA233722, AA861574, AI339443, AW009533, AA635649, AA910314, BF510307, AA948287, AA421401, AA621181, H52254, AA908447, BF127938, AA330666, AA458586, AA328941, AI472877, BF337899, AA853185, R69866, AA852144, BF999691, T49327, AA677036, AW024548, R46515, R69911, BF999694, AW593365, H52351, AA976306, BF903330, T49326, AA233143, AI381786, BE827715, AA359077, AI569251, AI685425, AI826541.
HFABH95	106	566712	1 - 1333	15 - 1347	BF035708, AI431513, AA832175, AI251429, AV729905, AV754716, AI538491, AU122466, AI446474, AC005006.2, AC008747.5, AC008805.7, AL160155.19, AC005081.3, AC013751.6, AC006241.1, AC004216.1, AL137853.12, AC069285.8, AL590762.1, AC004491.1, AL035659.22, AL158040.13, AL022323.7, AL160411.25, AC005231.2, AC005952.1, AC008649.6, AC002059.3, AL355480.22, AC007850.29, AC024163.2, AP000501.1, Z98304.1, AL122035.6, AC008569.6, AL360227.17, AP000694.1, AC005480.3, AC009470.4, AC008392.6, AC011464.5, AC005911.6, AC008440.8, AC013734.4, AL034417.14, AL139082.18, AC005242.1, AP000511.1, AC008403.6, AC040160.4, AL353535.19, AP001725.1, AL049776.3, AC004148.1, AC007686.5, Z98946.15, AC007374.6, AL137787.11, AC000159.6, AL109984.14, AC002350.1, AC009087.4, AP000351.3, AF240786.1, AC005037.2, AC011490.7, AL022238.1, AC006101.3,

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HFAEF57	107	534142	1 - 628	15 - 642	AV655597, AW967329, AW963498, AV706016, AW966767, AL121984. 14.
HFAMH77	108	543486	1 - 655	15 - 669	AI340312, BE676214, AA778534, AW300884, AI609950, AI340016, AI632085, AI335706, AA768117, AW027671, AW978490, AW590880, AW589742, AI272784, AW027648, AA983621, AI421130, AA918495, AI280887, AA724472, AA830837, AI024114, R60771, AI675916, N94357, BF960835, BF953963, AW572683, AI159997, AW772189, T05324, W52231, AI394585, F35349, AI445605, AI347406, R49581, AW020397, AB051512. 1.
HFCCQ50	109	579993	1 - 1257	15 - 1271	AL522683, AL522684, AI628729, AA133340, AW139771, AI690104, BF195450, AA133381, AW207332, AI267992, AI961337, R41690, AB049586. 1.
HFCEB37	110	411345	1 - 788	15 - 802	AW971191, BE710287, AA493766, D56115, H06701, Z41729, AA285136, AA256963, F04210, AL118652, AW893768, AW893769, AW160783, AF258348.1, AC007552.4, AL050152. 1.
HFFAD59	111	520369	1 - 456	15 - 470	AV699250, AV662248, AV699269, AV719565.
HFFAL36	112	560639	1 - 1006	15 - 1020	AL537384, AI656961, AI651790, BE466895, AA481913, H54148, AW020416, AA524615, AI309941, T82299, AW971340, AI625683, AA007579, AA670123, AW088680, AA112001, AI250970, AI613405, AI376500, BF526521, AA480105, AA417299, BF054759, BF054867, AI016470, AI373731, AA416675, BE622947, AI340568, BG180542, BE222669, AI266504, AI291507, AI672420, AI650382, BF885229, AA129526, AA081857, AV699196, AV699199, AA948596, AV699131, AV699223, AV662288, AV699219, AV699246, AV662257, AV699269, AV699218, AV662235, AV662248, AV699182, AV699250, AV662242, AV699204, AV699137, AV699147, AV699098, AW963961, AV699123, AV662247, AV662223, AV699144, AV699170, AV699136, AV699224, AV662272, AV699125, AV699203, AV699200, AV699247, AV662191, AV699255, AV662185, AV662196, AV662317, AV662287, AV699236, AV726209, AV652214, AV650926, AV652066, AW956240, L48842, AF051321.1, AF051322.1, AF069681. 1.
HFGAD82	113	513669	1 - 1867	15 - 1881	AL119979, BF346635, AV726399, BF035097, AV727342, AL119977, BF920864, AW888751, N31682, AW148844, AA772781, AA326677, N23200, AW961610, BF976989, BE765872, BE765750, BE765749, BE765443, BF570590, BE765618, BF438771, BE766953, BE766490, F06586, BG057153, R60278, F07047, AA628815, AV722183, RI6237, BF364146, AA204942, AV734361, N71200, AI000462, RS4067, Z40722, BF337123, RS4066, AW903171, H24278, AV726415, HI6893, AW897545, HI6783, H22887, RI6238, F03521, R42035, F05678, T80483, AA321847, AV731162, AV731097, AV730504, AV730299, AV731130, BE763530, R20855, AA386266, AW890775, R45969, R42611, N94832, R39831, F02857, F03323, T03048, RI1192, F07675, AU118413, AW890773, AA640468, N95708, F05679, BE830656, BF948144, M85660, AL119687, T08757, AV722325, AW904904, BF344999, AI003266, N76471, N47227, AW903272, BF977690, T53097, BF918689,

HFIUR10	114	532060	1 - 527	15 - 541	<p>F01937, N58994, A1000789, AW898733, BE702498, BE699153, AL118827, BE708346, F07242, AW897547, F01938, N51309, AC003037.1, AC022486.4, AC007379.2, AC007064.27, AC006548.20, AC016752.2, AC008175.2, AC007965.3, AC007322.4, T66696, T66697.</p> <p>BF195618, AA191239, AW969824, AA009856, AW019964, AA808036, BE677291, AW973259, AW023662, AV742957, AU146063, A1369580, BG109444, AU153717, AV709074, BG032605, A1357823, AW888719, AL110373, A1832009, AV708388, AV725797, BE150580, AA223512, AV734980, AA402529, AA595661, AW410201, AA683069, AA191418, A1144036, AW474168, BF681348, A1590458, A1590499, F08248, AW302048, AV760508, BE794962, AA665181, H07953, AW971071, AA654781, AV763410, AA749035, BF965290, A1609972, BF676985, AV708385, AW504485, AV762633, AW166808, AA282951, A1860535, A1792575, AA634889, AW302950, AL048060, A1254913, AW875172, A1281689, AA668587, AA084619, BF675051, A1354423, AA832077, A1733129, BF674550, AL041924, BE139451, H73550, AA828853, N39953, AW863393, AV757526, A1859946, AW976008, AW023111, AA747234, A1565084, AV710482, AW814024, AV710045, AW963482, A1355246, AA814925, BE077105, AA653182, AA664521, AW440305, A1054397, AA651639, BF725761, AV758073, H15652, BE280771, AW438542, T74524, AW191063, BF940118, AW968205, AV762973, AA552578, BF965924, BF879045, A1251034, A1251203, A1251284, AW805539, BG236628, BE878259, A1250552, AA632556, BF809041, BG029224, BF868994, AW020736, AF236698, BE139139, AW271904, BF978025, BF681424, AU118374, AV758790, BG110480, A1803809, AV758097, AA574442, AV733434, BE155302, AA644664, A1792521, BE246472, BE901278, AA626825, A1686913, AV706237, BE155299, AW302293, AV702609, AA533123, BE968477, AV738383, BF814446, A1891080, AA516190, AA533040, A1284543, BE273825, AW779609, BF525663, A1380617, BF914419, AL079734, BG166965, AW069227, AL043351, A1267161, AV762870, AV658819, AV709273, AL042735, AA503018, A1973173, AL046746, BE062357, A1963705, T69857, AV730245, BF810071, AW301736, Z97987.1, AC020913.6, AL031281.6, AC007637.9, AL096757.1, Z93017.6, AC087225.1, Z83840.7, AC008073.4, AF245699.1, AC010349.7, AC087315.21, AL163011.3, AC004106.1, AC004132.1, AC008925.3, AC004990.1, AL133351.33, AC010618.7, AC006275.1, AL035405.10, AC034203.7, AC006930.1, AF156495.1, AC008754.8, AP001732.1, AL139824.22, AC003037.1, AP001646.4, AC005162.1, AL050341.18, AL034420.16, AC024075.4, AL117382.28, AC008521.5, AP001039.1, AL512378.7, AC005778.1, AC091394.2, AL132768.15, AL139385.12, AL049569.13, AL109914.16, Z95152.1, AL163541.13, AC006367.3, AL442203.12, AC005684.1, AL117377.18, AL109828.22, AL031681.16, AC007488.15, AC007425.16, AC018462.4, AC007934.7, AL078602.13, AC010002.6, AC005038.5, AC009743.1, AC006538.1, AC053467.1, Z95115.1, AP001922.4, AC010203.13, AC010150.3, AC006545.3, AC006546.9, AC004970.2, AP001696.1, AL390736.6, AC003035.1, AL355543.13, AC007318.4, AC007381.3, AC006253.4, AC022173.7, AC040160.4, AC003684.1, AC009331.5, AL109823.23, AL451107.6, AL359873.11, AC004605.1, AL035682.16, AP002453.3,</p>
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HFTBM50	115	545012	1 - 748	15 - 762	AL529436, BG254023, AA069656, AW512689, AA928735, BE901109, AL529437, BE074967, BE074973, AA423996, AI027673, AI130940, AA827360, AA424006, AA421599, AW602733, AI580837, AL526924, AA114876, AA576953, AI858981, BF222157, AL526960, BF542049, AA136831, AI200715, AI358322, AA988755, AW602739, AA187921, AL527090, H10340, AI499041, H10044, AA252300, AA188494, AA856927, R44331, AA588683, AW364266, BE092940, BE007334, R51006, AI253378, AA481649, AI686745, AI628242, BE092920, BF733881, AA729977, BF026424, AW804569, AA421594, AW994967, AA481416, BE733257, BF876214, AA679567, AW028221, AU134538, BE251492, BE729280, AI906091, BC002480.1, AK023414.1, AP002347.3.
HFTDZ36	116	545726	1 - 1089	15 - 1103	AV721599, BF732420, BF510533, BF508158, BF508241, AI638188, AW181935, AI758929, AW592730, BE967495, AA447514, AI078837, AV723652, AI218418, BF692673, AA884756, AI335250, AW118870, BE044339, AA426363, AV730822, AI868197, BF947599, AA927228, BF952754, BF952302, BF952504, AW905268, AW905266, BF952591, AI673798, BF952850, BF952505, AW905263, BF952750, BF952589, BF952851, BF952752, AA897687, BF572515,

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HFVAB79	117	1300736	I - 1161	I5 - 1175		AI640273, AI769432, BF939574, AW271996, BE465785, AA916007, AI935583, BF196453, AI478387, AW301652, AI474065, N73883, W03943, AI266027, AI241273, AI373364, T87063, T83618, AC069548.4, AF349540. 1.
HFVGE32	118	854545	I - 558	I5 - 572		BF362920, AL160269. 14.
HFVBL33	119	778070	I - 1619	I5 - 1633		BG141322, AV652809, AV662223, AV699247, AV699167, AV662247, AW963961, AV699098, AV662272, AV725496, AV727824, AV699218, AV719825, AV719156, AV699200, AW952432, AV720062, AV720893, AV653163, AV650903.
HFXDN63	120	553685	I - 1012	I5 - 1026		AV699204, AV699196, AV699199, AV725496, AW952432, AV652809, AW958904, AV662223, AV699218, AV719825, AV719156, AV720062, AV720893, AV648653.
HFXJX44	121	701988	I - 1370	I5 - 1384		AC004491.1, AC024579.4, AL136084.11, AC016564.5, AC005015.2, AC007011. 1.
HFXKJ03	122	505207	I - 927	I5 - 941		AI041718, AC006213.1, AC035150. 1.
HFXKT05	123	658690	I - 1701	I5 - 1715		AU124431, AW960435, BF525944, AA781090, AW514159, AW390483, AW965129, AW170237, AW582015, AI700395, AI079309, AW339256, AI140441, BE700940, BE842726, BE842730, BE700936, BE700869, AW581975, AI022857, AI903097, AI401014, AI379419, BE700861, BE700862, BE772035, AI434349, BE772040, BE772042, AW673336, BE700873, BE700876, BE842723, BF439588, BE700941, BE700945, BE772099, BE700938, AA703354, N50989, BE772066, BE700937, AA719006, BE908235, BE772053, BE772081, H69547, BE700904, BE772059, AA574083, BE830929, BE772082, BE818955, BE818958, BE772101, AI251845, AI243536, BE772019, BF870875, BE818964, AW517983, BE700851, AI983670, BE772020, BF359589, H70004, AW820559, BE840628, BE700898, T63151, BG012510, R11344, AA305705, BE818962, BE840434, BE840457, AW752129, AA565124, BG010792, BF849721, BE772047, AI905362, AA731490, BE818915, BE772087, BE772018, BE772074, BF110884, R14845, BE772086, BE772015, AI983820, AA344670, AA889063, R07438, BE840445, C15468, T63006, BE170135, R09631, R06659, BE772017, BE836162, AI540442, BE830923, AI023272, AW868068, BE830919, AW868069, BE818892, AA324635, AW960971, BE818951, AW674579, BE832289, BF091071, AK001249.2, AB007936.1, AK027078.1, AL117402. 1.
HGBHI35	124	570262	I - 1423	I5 - 1437		AW027617, AW167655, AV705616, BF112047, AV647323, AI761852, AV647362, BF475491, BF941241, AU134617, AW273477, AA632135, BF589834, AW188958, BE328783, BF673582, AW025350, AW469123, AI248475, AW071025, AW513405, AV707439, AA443956, AW959532, AA974499, AA586906, AA411210, AA748561, AV647324, AA574049, BF001545, AA993212, AU155540, AA405832, AA418055, T65000, AA633212, AA417996, AA716696, AW338423, AI951713, AW269824, AA705781, AW294610, N29931, AW193961, W74344, AI623473, W95062, N58311, AA434443, AI452555, AI476814, AI707848, AI591113, AW071570, AA504192, AI284330, AA993753, AA422102, AA814543, AA833607, R59175, H69589, N27730, N27744, AI050821, H91466,

					<p>AV661353, N26927, AA384582, T53881, AA723025, AW952885, AA708478, AA412129, N80150, AA805411, AA325056, H86073, AW080735, AA719996, H48787, AW439101, AA327279, AW439110, R72184, AA317298, AA290758, AI302593, AI041429, AA932990, AV692965, H68481, AA290757, AI301278, AA928847, AV709914, R70407, AA342345, AW971285, T71152, AA528307, R00838, AI915200, AI470398, AA888272, T50944, T54028, AI784177, R69430, AI298655, AI801093, AA363967, AA935078, AA935062, T99499, AW450038, F37718, AI470409, AA419235, AW074842, AA700546, BF057503, AV656088, AI798643, AA946561, AV684912, C05231, AA342344, AA405831, AI682312, R72230, AV696820, AI557037, T72850, BG122003, AI478342, AA504193, AI474859, W91943, BG164862, AW841423, AI243763, AI364219, AA879063, AA419337, AV698254, BF847168, BG004190, AK001810. 1.</p>
HGBIB74	125	837220	1 - 1802	15 - 1816	<p>AU132073, AL514534, BF983632, AL526111, BF793202, BF816636, AL526167, BF207035, AU121857, BE312932, BF307465, AL528311, BF316637, BE878180, BF512924, BE781366, BE299008, BE866833, AU141579, BF307539, BE296624, BF203318, BE314690, BE247312, AA258714, BF203434, AA258479, AW602250, AW372227, BF358908, AA625114, AI337232, BF762063, AU134960, BF303835, AW372227, AU125523, BE840047, AI739102, BE696707, AA551238, AA505288, RS2096, BE746044, AA853934, BG012508, AI936957, AI582908, BE245999, R46499, BF365473, BE296121, AW166753, AA770298, BG056533, AA481002, AW071542, H17104, AW007814, AI086723, AI338746, AI340064, AI094613, AI096869, AI922132, BF939399, BE855621, AI357394, AI423481, AW087313, BF475441, AI421759, AI356823, AI418892, AA287330, N94480, AA524286, AW005778, AI922862, AW191028, AI566341, AA470698, AI421557, AI361016, AI359797, AI362874, AI863909, AI880712, F09352, AI922424, AA873767, AA481480, BF447091, AA291405, N20109, AI263664, AW968514, AA570059, AI913894, BF057036, W94068, BF090405, AI381877, AI193950, AI364237, D54296, AU149162, BE828094, BF751874, AA789159, AA853935, AA482101, AI360188, AW952710, Z40719, AA400811, AI539565, AA629142, BE813293, AA095376, T58139, AU147592, AI214242, AI034063, N31573, AI040574, H43298, BF753185, AA953460, AW131152, AV706318, AI146352, AI648405, AA921717, AW054979, AI445988, AI888216, BF432411, AI271977, R22588, AI360977, AW188664, AW516744, AI085523, AW057831, AI613427, AA679957, AA524336, AW993553, AW375413, M79269, AI598125, BF819300, AW993667, AI083784, H65453, AW136876, BE964668, AA421021, F30056, AL515965, AI078721, AL515964, BG060060, AA701072, BF805411, BE815632, BF872254, BF752405, BF527514, W94067, BE762789, W23927, BF206436, BF527026, W22794, BF772933, AW265783, BE707365, AA480986, BE259841, BE876343, BE697298, D87444.1, AL049539. 21.</p>
HGLAF75	126	566838	1 - 762	15 - 776	<p>AW968403, AW268460, AV699333, BE388094, BE387809, AA805707, BF112044, AA769677, AI379717, AI419895, AI858342, AI708860, AA044030, AA465222, AI677780, AI189447, AI221144, AI073526, AI286149, AI540808, AI298414, AA847808, N29749, AW170779, AA344901, AA044352, R52970, BE836466, BE716265, BG057223, BE836496, H40701, R55340, AA873679, AI363753, BF792412, R40137, AW965142, AA725486, AA344902, T27542, BE716174, N57171.</p>



HGLAL82	127	520261	1 - 392	15 - 406	AL117344.12.
HHEMA59	128	823100	1 - 3088	15 - 3102	AV726528, BF574791, BF996057, BF990910, BF035428, BF695329, AI096792, AW977965, AA811457, AI742527, AI820061, AI921596, AI984225, AW961815, AI393746, AI573202, BF970504, AI245917, BE670178, AI283174, AW043715, W74699, AI174605, AA810908, AI367927, AI285046, BG117412, BF338708, AI357298, AA215462, BF810183, BE927671, AI334340, D62083, T32812, N70003, W74737, BE927668, BE568242, AA463313, AI880873, AI039073, AA862480, D61879, AA130296, H70799, AA215463, Z45087, Z40816, T60267, R76519, AL157633, AI264491, T32813, R81074, AW089194, BF088910, R80967, H70800, N62108, R76520, BF356673, BE940685, AW900254, AI885935, AI370183, BF925069, N78339, H60031, BE935677, T61647, AL136527.9, AB014529.1, AF176555. 1.
HHEHV10	129	562772	1 - 1141	15 - 1155	AC004912.1.
HHEPM33	130	877639	1 - 1445	15 - 1459	AL525047, BE267465, AU119027, BE728398, AU142237, BG034269, BE797542, BG110205, AL525046, BF446035, AW966408, BE695857, AA447885, BE261226, BF852227, BE858413, AU159593, AV749929, BG178599, BE856576, AA424770, AI338990, AW135009, AI423774, AI334334, AW959286, AI766429, AA417903, AA933079, AA424903, AL047160, AI685395, BF477465, AW139987, BF948688, BF745006, AW769824, AA641849, AW371401, AW371406, BF745011, AW613024, BG056135, BF744933, BG058480, AI720305, BF744994, BE828620, BF744932, BF744930, AI250926, BF760364, AA593807, AI969741, AI263347, BF744931, BF745007, AA383851, AA482522, BF745014, AI686024, AA447724, AW613546, AW614328, AI766856, BF995409, BF745010, AA644474, AW197307, AA641850, BF852819, AA383850, AA325769, BF955849, AK023968. 1.
HHFBY53	131	821330	1 - 856	15 - 870	AA346699, BE897269, BG109478, BG178294, AI370129, AW238611, BF343729, AI000070, AI085870, BG179993, AI436456, BG108324, AV755207, AL514935, BE047863, AI802542, AI349772, AI500077, AL513643, AL121270, AI524684, BG165209, AL036396, AI225230, BF725126, BG260037, AI250293, BF883916, AL047042, BF343172, AW303152, AV655645, AL119049, AL036802, AL513907, BE048081, AL514627, AV681857, AW827203, AI064830, BG036846, AL046849, AI702406, AI475371, BF037097, BE048071, BE969709, BF727212, AV757737, BG111647, AL135661, AI521012, AI675423, AI433157, AL515041, BF971016, BF054877, BG168696, AW268253, AL121365, AL513597, AW075351, BE964812, AV682479, AL119791, AV681716, AL036146, AV756770, AV710479, AV757943, AI349645, AV711924, AW827249, AL119748, AV682224, AA187180, AI216146, AV681647, BG151247, BG031815, AV682266, BF969494, AV704928, AW238730, AV762488, AV682330, AL513911, BE968552, AL513837, BE887488, AI568870, BE613622, AV717179, AW274192, AI340582, AI687728, BG058208, AV721967, BF724691, AL514919, AV682351, AL513693, AI815383, AW071349, AW301409, AI349933, AI868831, AV682249, AI538716, BE966388, BG259801, AI349004, AI433976, AL045500, BG109125, BF795712, BF968493, AI687376, AV733470, AW071417, AW089572, BE880190, BG257535, AI799199, BF812933, BE964700, BG180996, AI969567, AI440426, BG114104, AL047763, AW074993, AI567351,

BE048179, AV755290, AI281779, AV759235, AV757158, AL513553, AW195957, AI686926, AI678302, AI312152, BG252929, BG110797, BF695032, AV682074, AV681548, AV733397, BE877769, AA494113, AI687415, AI349937, BE785905, BF726421, AI977733, AW827211, BE965556, AV681685, AA610426, AW103371, BE048026, AI631107, AV757012, AV734318, AW169653, BE777769, AI345735, AV682441, AV758110, BG250190, BE876033, BG178809, AI699857, AL513753, AI635461, BF792099, BE048163, AI439087, AW162071, BE018711, AV755581, AL120854, BF793644, AV757018, AV723953, AI590128, AL513803, AV757853, AI275175, AV705644, AV758592, BE048319, BE047952, BG029399, BF970162, BE881155, AL514791, AV681630, AV758217, AW068845, AI863014, AI564719, AV682252, BG109270, BG108147, AL036274, AV757797, BE963035, AI934036, AI620284, BF054789, AI608667, AI679724, AV758806, BF970446, BE781369, AV710608, AL514691, AV703695, BF970731, AL036759, BF344652, AV763915, BG107847, AI920968, AL515173, AV681987, AV682803, BF792469, AI866608, BF726297, AV758668, BF882343, AV717299, AV682809, AV723772, BF348329, BG033403, AV715462, BF982046, AL514261, BG105099, BG252914, AV756342, AV681668, AI469532, AI445432, AI873731, AV681951, AF090900.1, AF090943.1, AF078844.1, AL136586.1, AL157431.1, AL442082.1, AJ242859.1, AL049452.1, AF125949.1, BC007021.1, AL133016.1, AL133640.1, AL512733.1, S78214.1, AL117460.1, AF090903.1, AL050146.1, AF090934.1, BC008387.1, BC008365.1, AL050393.1, AL136787.1, AL390167.1, AB055303.1, AL442072.1, AF090901.1, BC008417.1, AF218014.1, AB056420.1, AB049758.1, BC008488.1, AL133606.1, AL080060.1, AL389978.1, AF111847.1, AK026608.1, BC000472.1, AL117457.1, AB048953.1, AF104032.1, AL137527.1, AL359596.1, BC003687.1, AL110196.1, AL110221.1, AL049938.1, BC003683.1, AK000212.1, AL359601.1, AF090896.1, AB056809.1, AB048964.1, AB047615.1, BC002569.1, AL136789.1, AL136892.1, AK026045.1, AK026741.1, AL050149.1, AK026865.1, BC007308.1, BC001967.1, AB063046.1, AB060916.1, AL050108.1, AB050510.1, AL136749.1, AL122050.1, AF106862.1, AB060887.1, AK025339.1, AL162006.1, AB056768.1, AB019565.1, U42766.1, AB055361.1, AL050116.1, AL162083.1, AB063070.1, AB047801.1, AL133075.1, AK025084.1, AL049314.1, AL080137.1, AL049466.1, AK027868.1, AB063008.1, AK025958.1, AB060912.1, AF219137.1, AL096744.1, AL122093.1, AL136799.1, AL133080.1, AL389982.1, AL133557.1, BC006807.1, AL080124.1, AL133093.1, AK026855.1, AL050277.1, AL137283.1, Y16645.1, AL512746.1, AL136844.1, AL359618.1, AB060908.1, AK026744.1, AL137459.1, AL133565.1, AK000618.1, AL122123.1, AL136768.1, AL122121.1, AL137557.1, AL049430.1, U91329.1, BC002733.1, AL512718.1, AB060863.1, AK027096.1, AK026784.1, AL121916.14, BC004556.1, AK026533.1, AL512719.1, AK025772.1, AF097996.1, AF146568.1, AF207829.1, AL117394.1, AF125948.1, AF041428.1, AK000083.1, AK000137.1, AL133560.1, AB062938.1, AF271350.1, AF091084.1, AL110225.1, M22146.1, X82434.1, AK024538.1, AL512754.1, AB060825.1, AL050138.1, AL135994.1, AB048954.1, AL137550.1, AB060826.1, BC006195.1, AK026592.1, AK025092.1, AK000614.1, AK026542.1, BC001045.1, AB055368.1, AK000445.1,					
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HHFGR93	132	865581	1 - 1821	15 - 1835	<p>AB051158.1, AP001346.1, AK026452.1, AP001873.3, AL117583.1, AK000652.1, AK027113.1, AK026647.1, AK026583.1, AB052191.1, BC007199.1, AK025491.1, AL353940.1, AB055366.1, AB055315.1, AP001666.1, AL512689.1, AL353594.13, AB049892.1, AL133258.16, AB060852.1, AF225424.1, AK026927.1, AK000323.1, AB049892.1, AL117585.1, AK026353.1, AK026480.1, BC004951.1, AF177336.1, AK026504.1, AL359615.1, M58458.1, S61953.1, AL117435.1, AL049464.1, AL049300.1, AB048974.1, AL049382.1, AK026532.1, AL136928.1, AB047904.1, AK026534.1, AK000432.1, AL136845.1, AK026959.1, AK027164.1, AB063093.1, AK026086.1, AK025391.1, AL050024.1, BC008485.1, AK026528.1, AB015610.1, AL353802.14, BC008070.1, AK025414.1, AL137538.1, AC026787.4, AK026642.1, AK026947.1, AK025967.1, BC002839.1, AB024285.1, AK027204.1, AF348209.1, BC008899.1, AL122098.1, X72889.1, AC002467.1, AB052200.1, AL137463.1, Z82022.1, AF183393.1, AL583828.4, AK024524.1, AK027213.1, AL353625.5, AL133113.1, BC008382.1, AL157482.1, AC022215.4, AC010305.3, AL359583.1, AL137648.1, AF334404.1, AB056421.1, AC009364. 8.</p> <p>AL513572, AL537139, BE869616, AL513571, AW190823, BE868295, BF528807, AW959200, BF998261, BF986378, W52782, BG009530, AA707399, AI921717, BE161072, AI656071, AI809901, AI870870, AA780017, AA046658, AA913618, AI633244, BF995431, AA428298, AI014541, AW300019, AW173046, AA428713, H12307, BF432551, H12782, BF115565, AI141481, AI092488, BE550395, W58612, AW172540, AI184646, BF222972, W58613, AI359381, AW361707, BE043092, AI970137, AI126255, R77354, AI624748, AI949837, AW081182, AI923177, AI187105, BE707255, R69232, AA514466, BF995428, AI521359, R69114, BG011026, AI347221, R76149, R73827, AA664044, R79810, H12841, AW594241, R78260, BG015155, BG002356, BF851373, H12629, R76098, R32862, R63063, R78261, T47327, AI189377, R73853, R62315, R68433, AI828342, R79923, H12360, AA618505, H12680, T50332, R79910, AW903922, AA733001, R35438, AI216465, AW903849, T98690, R73852, R81664, H00855, AA683601, AW009057, AI873711, AW513081, R33685, H02334, AI189455, AW365832, H02440, R67936, H02804, AI569353, R66838, R68432, H38189, R76065, R64387, R75889, R33581, R35749, AW235425, BG055882, R27675, T98640, AA991630, BF196820, AI189443, BF848636, R81467, BG007447, AA367816, R27576, R63218, R31360, AA359117, R31889, R34252, AI762218, AW002259, BF848635, W52486, H01235, AI199859, R62314, AA046788, AA249358, R64386, AW407088, N55686, R67441, AA446485, D45691, AI002022, AA430177, AF361746.1, AB060855.1, AF277292. 1.</p> <p>AW248957, BF828801, BF828604, AI675194, AW028119, BF826770, BF827069, AW452880, AI491913, AI799880, AW450970, AI377883, AI201976, AA595164, AI088096, AW612440, BE792795, AW006952, BF063362, AI697133, AA643065, AA580017, AI819005, AI866931, AI560641, AA635584, BF446220, AI829011, AW952316, AL524066, AW243832, AI200458, AI634449, AI670745, AI269568, AA326815, AI873666, AL523219, AL520944, AI478177, L31980, AW245254, AW194690, AW771866, AI767850, AW079488, T87766, D45523, BE242113, AA055697, AI306732, AW275312, BE280419, AI908657, R48473, AA013188, AI908646, BG250796, BE796614, T72628,</p>
HHGCM76	134	662329	1 - 697	15 - 711	

HHGDF16	135	579890	1 - 876	15 - 890	BC002980.1, AC003665. 1. AI365221, AI701000, AW954119, AW264473, BF344449, AI680921, AI492007, AW014989, AI860823, AI539819, AI473662, AW628976, AW276150, C75362, AU152947, AA167428, AI559629, AI811077, AI039475, AI656542, AI284462, AW590370, AI431949, AI656530, AW148492, N67246, AI915180, AA907555, AA047467, AA478729, AI365222, AI242862, BE018520, AA834839, AA412178, BE302119, AI823337, BF671770, T61838, AW007865, AA905198, H08613, AI382420, AA776507, AA385375, T94765, T94766, AA047401, N53320, AW890140, BF949155, N83376, BE883645, AV701945, AV704429, AW890022, AW898540, AV702726, AV703584, AV703624, C01033, AV702464, AW890015, AW956618, AV655824, AV708871, AV729091, AV704729, AV656250, AV655597, AV701800, AV705652, AV703976, AV707059, AV705178, AV661490, AV727054, AV701616, AV709625, AW956781, AW964267, AV706912, AW890016, AV709236, AV701584, AV726913, AV704346, AV728464, AV707827, AV693230, AV687808, AV705939, AV708600, AV705045, AV704029, AV702601, AV655568, AV727449, AV701067, AV727266, AV705517, AV650430, AV704588, AV702830, AV702086, AV728521, AV725260, AW951773, AV726646, AV703833, AV705813, AV729463, AV705474, AV703653, AV726903, AV725970, AV707500, AV728256, AL133418.4, AK023144.1, AF214114.2, AF208045.1, AF227899. 1. AI939620, AI480056, AW300615, AW300620, AI589129, BE386438, BF920454, BE386547, AW961851, AI911546, AV726263, AI361251, AI498527, AV725146, AW901919, BE967591, H41544, AA326679, AA348503, AI422476, AA912288, AI423129, BC004271. 1.
HHPEN62	137	695134	1 - 2138	15 - 2152	AI939620, AI480056, AW300615, AW300620, AI589129, BE386438, BF920454, BE386547, AW961851, AI911546, AV726263, AI361251, AI498527, AV725146, AW901919, BE967591, H41544, AA326679, AA348503, AI422476, AA912288, AI423129, BC004271. 1.
HHPGO40	138	1299927	1 - 988	15 - 1002	BF936014, BF926087, BF849807, BG059559, AA663575, BE464797, AL137451. 1.
HHSDX28	139	553494	1 - 1099	15 - 1113	AA548981, BF835253, BF835251, AA854044, AI784057, AL034420.16, AC006060.1, AC025470. 4.
HIILCF66	140	636025	1 - 1654	15 - 1668	AW866442, N50805, AW769075, BF836507, AI206345, BF840986, AA708926, AA426062, AU155280, AW866532, AW769542, AI652458, AA258053, AA532374, AW674310, AI079267, BG178864, AI918893, AI583381, AI129768, AU160789, AW151099, AI375855, AI077465, AI434984, AI084577, AA353483, AI803071, AI978803, AA435860, AA625163, BF437117, AI093544, AI016100, AI951676, AI684966, AI479709, AA502596, AA075493, AI224122, AA531263, AI865571, AA424807, AI337861, AI275719, AI784447, AI393782, AA045896, AI798537, AW627862, AI362624, AW188737, AI587550, AI583574, BE242408, AI951273, AA135691, AW514022, AI262711, BF939682, AA135723, H06916, AA398860, AI583554, N93804, AI707963, BF843408, BF843416, AL522362, AA625925, BF738648, AI919121, T98717, BF059218, AL526660, T98661, AW022094, D19802, AA887448, T25800, BF950460, AL529899, AA654911, W44832, AA426475, BF773449, AL529900, AA495877, AK023371.1, BC000630.1, BC000904.2, D14663.1, AF215935. 1.
HJABB94	141	456466	1 - 1541	15 - 1555	BE905356, AI026821, AA503776, BF114724, AI435527, AL036946, AW298357, BF240642, AA969442, AI767392, AI142574, AI094514, AW073866, AW241144, AA206595, AA040034, AA354909, AW972134, AA814156, AA933895, AA040828, C01416, AA457220, AL138875.8, AY027525. 1.

HJACG02	142	1307789	1 - 561	15 - 575	AA311223, BF002026, N41594, N30820, BF982046, AI829327, BE047833, AI457369, AW071417, BF968205, AI340627, R36271, AL036980, BF061283, BG168549, AW022682, BG034550, AV682418, AL047042, BF343172, BG113299, AW020693, BF751308, AI452560, AE90748, AI349645, AW946806, AI340511, BF924882, AW074869, AW196299, AL038445, BE781369, AW302992, BG110684, BE887488, AL514193, AI310575, BG164558, AI340533, AI349957, AI433384, BF680133, AV715560, AI309401, AI345005, BG163618, AI343112, AV743962, AI826225, AI811785, AI494201, AW054931, AW268302, AW301300, AI349598, BF672397, AW072719, AW075207, BF526020, AV741327, AI345735, BG036846, AI697243, BE536058, AW193134, AI889147, BF904189, BE910373, AI500077, AA225339, BE138712, AI307210, BG033723, AI589267, AI269862, BE885353, AI313320, BG058150, BE886728, AW827106, BF527014, AI313352, BG110517, AL039086, AW079336, AI251434, AI274728, BF868928, AI524780, AI589947, AV682724, AI439717, AI312146, AI312339, AI814087, AI345745, AL036925, AI345258, AI932638, AI470651, AL036857, AW050578, AW196105, AV682227, AI306705, AW269097, AI620639, AI611348, AW090393, AL042628, AW152469, AA833760, BG256090, AI866798, AW074993, AI567351, AI431424, AI349614, AI311604, AW105601, BE966990, AL044207, AW167918, AI611738, AW169604, AW268253, AI862144, AI567612, BE886827, BF793308, AI890806, AI349256, AL036664, AI554821, AI312152, AI955906, AI336495, BF970768, BF885000, AW075084, AL120854, BE895585, AI950664, BE897632, BE964078, BF872670, AW022699, AI349937, AL036923, AW089572, AI334884, AI307543, AW151138, AW071412, BF885081, AI307708, AI312325, AI500659, AI868204, AI340659, BF816037, AI280655, AI612885, BF092710, AW302965, BF339322, AI334930, AI309443, AV699211, AV734185, AI307520, AI445237, AV724373, AI590423, AV756798, AI345739, AI889168, AI440263, AW117743, AI312143, AW673635, AW806761, AI343037, AV708834, AI434256, AI312428, W33163, BG109270, BE966829, AI349955, AW075093, AI371228, BE548914, AW827206, AI348897, AA427700, AI306613, AI312357, AI335426, AI348777, AI308032, AI569583, AI687127, BG249582, AI783997, BG030364, BG104820, AW161579, AI627988, AI344785, BG113662, BE971716, BF970449, AL079963, AL036718, BE047852, BE785868, AI207454, AI382670, AW020095, AI874166, AL036901, BE047952, AI670009, BG180996, BF970990, BF526262, BG027280, AL036274, BF061286, AI497733, AL041150, AI288285, AI890507, BG026428, AW827115, AW268964, AI343091, AI318280, AI567582, BG165051, AI554245, BE963035, BE138658, BG260037, AI310582, BG032208, BF344691, BE885490, AF352730.1, AF205952.1, AF323081.1, AK024538.1, X53587.1, AL512765.1, AL050393.1, AK025254.1, AF090901.1, AK026542.1, AL136787.1, AK026597.1, BC006525.1, AF218031.1, BC001963.1, BC007326.1, AB055366.1, AK027213.1, AL389939.1, AK026528.1, AK026855.1, AL122110.1, BC008780.1, AF090943.1, AL133098.1, AL136799.1, BC008070.1, BC003687.1, AK024524.1, AF091084.1, AL049466.1, AK025967.1, AK026480.1, BC002839.1, BC006807.1, AL136789.1, AL157482.1, AL117394.1, AK025391.1, AL137560.1, AY034001.1, AK025349.1, AFI25948.1, AL359615.1, AJ242859.1, AK025906.1, AL136915.1, AL110221.1, AL050092.1, AL512718.1, AB056427.1, AK027146.1, AB060825.1, AL133075.1, AK025484.1, AK000391.1,
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HJACG30	143	895505	1 - 1518	15 - 1532	AA311188, BF940968, A1478697, AA309875, AA481249, AL533052, AA481563, AW242463, AA760629, AV651897, AV660258, AV661286, AV709580, AV653353, AV726590, AV703632, AV725255, AW960067, AV705453, AV726243, AV652001, AV704144, AV726194, AW956292, AW949777, AV708520, AV727618, AW959858, AV656283, AW967329, AV727932, AV728953, AV725582, AV708786, AV708872, AV661369, AW952013, AV705340, AV704234, AW965148, AV726156, AV705836, AV708991, AV725618, AW952301, AW958796, AV725596, AV709248, AW959986, AV726337, AV709407, AV728355, AV725031, AV707948, AV725441, AV729424, AV652528, AV725577, AV707556, AV704626, AV702071, AV706223, AV705665, AV704785, AV728404, AV709733, AV729366, AV708320, AV705343, AV727822, AV707264, AV704611,

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HJBCY35	144	719729	I - 1545	IS - 1559	AL518865, AL526445, AL518864, BF690211, BE795952, BG261247, BG122941, BE871131, BF342499, BF797882, BG034854, BE874386, BF684303, AW958340, BF055513, BE265238, BF055496, AL042954, AL044311, AW393087, BF590235, BE251517, BF688851, AW500006, BF750912, BF436031, BE207255, AI523943, AI809559, AW615714, AI088845, AI199469, AI088821, BE792741, AA707004, AI393362, AI859578, AA864359, AI359119, AI963339, AA259086, AW027379, AA186786, AA703021, AA305929, AA393356, BE729570, AI961726, AW274049, AI216448, AW503180, AW505339, AI015694, AA291342, AI049539, AW873566, AI092749, BE410341, AI817912, AI870620, H44330, AI366215, AA258242, R46300, R16949, AI744596, R54656, BE386449, BE410337, AI807057, AW081887, AL041401, HI5972, BE710574, BE410414, BE535502, BE222788, AA398688, AW273864, AA404987, D59795, AA077661, BE047327, T10451, AI871075, D59810, AI368575, BF526818, AA962247, AA335735, AW000813, BF435172, AA188015, R75708, AA329264, BE713106, AI218840, AA329538, AA291343, AA826970, T35806, R10855, D59833,

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HJMBI18	145	545492	1 - 1007	15 - 1021	AI928477, AA527494, AI871626, AI694451, AI613494, N21002, AI630897, AI609811, AA987612, AI373242, AA595033, AW271584, AI858763, BF111620, AW975076, AA281453, C06206, H85386, C05666, AL536332, T23579, R22308, AI125182, AA488619, AI914281, R45226, R37773, Z40129, AA658001, N66912, N78467, BE778573, AA211234, AL119049, AA928812, AC007622. 28.
HJMBM38	146	545752	1 - 1010	15 - 1024	AL518937, AL518938, BE410807, BE298018, BF663486, BF664523, BE741022, AI471526, AI624274, AW006720, AW072426, AA548389, AI805053, AA649964, BE295825, AW013989, AI889549, AL525865, AI380679, AI142829, BE796333, AI968598, AW006482, AI937663, BF475729, BE645645, BE958622, BF872663, BC002598.1, BC005015.1, AK022244. 1.
HJPAD75	147	651337	1 - 1217	15 - 1231	AL530365, AL524811, BG035149, AL524846, AV653215, AL525028, BF031163, BE464161, BF064198, BG057645, BE677690, AV714679, AI954819, AA708718, AA773040, AW206827, BE677490, AW590005, AL522800, AI075390, BG179367, AI933314, AA022693, AA563665, AI582700, BF591973, AI933036, AA011394, BE463890, AI304827, AW467513, AI675049, N47573, BE537595, AI075392, AI346305, AL514603, W26975, H02832, AI290715, AA535130, AW137781, AW298065, BF927479, AA917670, AA011431, AL530366, AA974770, AA535120, AI497684, AI277012, AI274193, AL514604, AW297638, AW779938, AA356778, AW067366, AL524812, AL524847, BF763877, AV652546, H03723, F09604, F09318, H83110, AA216050, AW573003, BF926201, AI572540, AL525029, BF092250, D80466, AI940747, AK027129.1, BC008984.1, AF043945.2, AL163284. 2.
HJPCP42	148	1040297	1 - 1209	15 - 1223	AA780037, AI022797, AI023991, T86767, AL046060, T86675, AW867242, BF154952, AW966053, AW966054, AV724520, AW975618, AW949656, AW978634, D80038, AV719783, AV718800, AV719188, AV720464, AW966013, AW966534, D80195, AW975621, D51799, AW966531, D80193, AV718844, D80166, AV720211, AW966041, AV719822, AV718692, AW966062, D58283, AV719468, AW949654, D80227, AW959570, AV699927, AV723927, D81030, D59619, AW949658, AV719324, D80210, D80391, D80240, D51423, AV718770, AV699447, AW959597, D80253, AV718489, AV720203, AW973307, AW959628, AW960553, D80212, AV719557, AW949642, AV720731, AV722801, D80196, AV699550, D80269, AW966050, AV718440, AV720028, AW965177, D80219, D59859, D80188, AW949643, AW949646, AV723097, AW965158, D59927, AW966043, AW949641, D80043, D59889, AW949653, AW949657, D59275, AW959202, AW949631, AV720812, AW949629, AW949645, AW949632, AW978661, AW949618, AW949633, D80366, AV718633, D80022, D80045, AV720791, AV721386, AV720654, AW973447, D59502, AW960465, C14429, AW949655, AV700889, D80378, AW959582, D50979, AW964488, AW973485, D57483, AW966022, T03269, AW975605, AV699669, D80164, C75259, D59610, D80024, AV700229, D50995, AV718931, AW959799,



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HKABI84	149	565078	1 - 1224	15 - 1238	<p>BE908972, BE871345, BE969781, AU127317, AW665494, AL650586, BF699086, BF432884, BF241722, BF087758, AI923936, AW271402, BF058229, BE349336, AA483696, BE504564, AV753084, AI553984, AA934906, AU148404, AU125401, AA521022, N53984, AI079322, AW015810, AA481668, AU120404, BE836738, AW959428, AA478921, AI341198, BF086194, AI559514, BF095983, AW439579, R78314, BF086179, BF992216, BF992222, BE930087, AA149227, AW627942, BF992221, AA831360, BE858967, AA300892, BF095985, AI909338, BE930086, AA331631, AL079584, AA971728, BF526589, T27345, AA515943, AW894981, BF086178, BG255010, AB007885.1, AC023426. 29.</p>
HKABZ65	150	862030	1 - 1175	15 - 1189	<p>AA715814, AA503019, AV762033, BE155099, AV734997, BF917346, AW338860, AC011666.28, AF242518.1, AF109907.1, AC004867.5, AC020917.4, AC004166.12, AL356915.19, AC005071.2, AC004878.2, AC005052.2, AC005081.3, AC002549.1, AL590763.1, AC020663.1, AC006064.9, AC008745.6, AC004858.2, AC022405.5, AC007666.12, AC008750.7, AL451144.5, AP001716.1, AC009131.6, AC004656.1, AL109825.23, AL355312.24, AL035086.12, AC010605.4, AC004067.1, AC004477.1, AC008736.6, AL109915.10, AC006023.2, AL033529.25, AC007637.9, AL139317.5, AL031311.1, AL049776.3, AC004971.3, AC009220.10, AL080243.21, AC005015.2, AC004686.1, AL022318.2, AC002310.1, AC009123.6, Z93015.9, AC021999.4, AL355353.23, AL050318.13, AL161756.6, AC011464.5, AL132712.4, AL359513.12, AC007546.5, AP001695.1, AL035683.9, AC018711.4, D87675.1, AL133444.4, AL139100.9, AF030453.1, AC006077.1, AC008895.7, AP001713.1, Z84487.2, AL357153.4, AL163636.6, AL359382.23, AC004770.1, AP001972.4, AC004675.1, AL355392.7, AC020906.6, AL138784.30, AC020754.4, AL162426.20, AC002288.1, AC009068.10,</p>

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HKACB56	151	554616	1 - 482	15 - 496	AI935239, BE122852, U51140, BG121875, BF970449, BE879967, BE545287, AI311480, BF968910, AI207454, BG031442, BF815930, BF792050, BF339322, AI924051, R99209, AA669025, AA505147, AA806160, AK026797.1, BC000650.1, AB060839.1, AL133557.1, BC009192.1, AL136622.1, AB048888.1, AL512754.1, BC002485.1, BC004908.1, AF004162.1, AL358532.11, BC004181.1, BC006251.1, AK026603.1, AK000647.1, AK024974.1, S69510.1, BC008823.1.
HKACD58	152	1352202	1 - 3139	15 - 3153	AL528271, BE513051, BE874633, BE727126, BG119953, AA877796, BE897630, BE616928, BE873485, BE409112, BF568632, BE886189, BE890308, BE259677, BE389188, BE386943, BG033053, AW957771, AW880570, BE389298, BE782739, BE042596, AI829975, AW027434, AI335269, AI525602, BF382771, AA495894, AW402301, N46240, BE735624, BF887879, BE258030, AI819188, BE349022, AW008354, BF509970, AI683541, H38504, AI365603, AA178917, AA180758, BE812358, BG250135, BE874703, AW390227, BG029976, BE812223, AA354527, AA178918, AI204915, AW194439, AW390207, BF875432, AA425001, AW368379, R88102, BE932912, BF511057, BE932910, BE301126, BF912732, AI360437, AA370005, BE764970, R69656, R53778, BE830394, AA134615, BE697358, R54897, F37313, AL536107, AI280553, F34525, BE171591, AI524965, AW880505, F27458, AI193372, R55008, AW339374, AW999021, BF885645, AA227281, BF799341, BE410974, R55146, AI651533, AA355898, AA149032, H21738, BE937883, R78049, T74386, T27237, R69572, H22354, AW946340, AW169264, AI630501, AI699781, BG001443, AA343322, BF932030, AI971329, BF813656, AI096656, AI367032, AA380842, AL138431, H22385, BF929569, T50676, BE393507, D29121, AA668973, BF934053, BE206656, AI620083, AI493047, AI872461, H29733, BF793181, BC006159.1, X80590.1, AL050037.1, AC006457.3, AC006455.2, BC000224.1, AF075046.1, AL117382.28, AC009242.5, AC002565.1, AC009314.4, AC011005.7, AC007934.7, AP000547.1, AL442096.1, AC083866.2, AC008551.5, AC020550.4, AC002365.1, AF001548.1, AC008073.4, AC005225.2, AL590762.1, AC010792.4, AL365332.9, AC004491.1, AC004686.1, AC004551.1, AP000744.4, Z84480.1, AC005484.2, AC006236.1, AC005622.1, AL135749.3,

HKACH44	153	545015	1 - 672	15 - 686	<p>AL158198.14, AL034548.25, Z82214.23, AC012597.24, AL161781.12, AC009137.6, AC018636.4, AC011362.2, AC005899.1, AC004965.2, AC006241.1, AC005098.2, AC002563.1, AC091394.2, AP000338.2, Z83844.5, AL096701.14, AC009228.4, AP000216.1, AC019171.4, AL445645.10, AC007371.16, AL365364.19, Z93015.9, AL391241.21, AC009120.8, AC091492.1, AL358434.16, AL049776.3, U82828.1, AC005520.2, AF196779.1, AL358777.12, AC010271.6, AC002352.1, AL133245.2, AP000337.1, AL139100.9, AC004253.1, AC004149.1, AL158167.15, AL034420.16, AC004386.1, AP001760.1, AF111168.2, AC018639.8, AL353812.13, AC004953.1, AC006487.8, AC010616.5, AC009812.17, AL445493.8, AC008670.4, AC004770.1, AL117692.5, AC004166.12, AC005821.1, AC004144.1, AL159168.15, AC005071.2, AC008764.7, AC008892.5, AC009247.12, AC004867.5, AC010605.4, AC005103.3, AF047825.1, AL121834.20, AC078846.2, AL117334.29, AL163973.1, AC074121.16, AC004824.3, AL138849.12, AC011497.6, AL391868.15, AC007021.3, AC008655.6, AP000500.1, AC006038.2, AL160175.5, AC010422.7, AL109920.15, AC011465.4, AL109976.23, Z85987.13, AC090939.1, AP00102.1, AL136418.4, AL139054.1, AD000092.1, AL031311.1, AL034549.19, AC010543.8, AC007336.5, AL033543.6, AL590763.1, AL136137.15, AL050349.27, AC005067.2, AC005412.6, AL139343.9, AL121895.26, AP000115.1, AC006101.3, AC010512.7, AC002418.1, AC018695.6, Z98941.1, AC020915.6, AC027319.5, AC004150.8, AC006345.4, AC009049.3, AC008403.6, AC005488.2, AC005207.1, AL121900.26, AC020904.6, AC008066.4, AC007374.6, AP001727.1, AL136228.8, AC025166.7, AC083871.2, AC008752.6, AC008569.6, AC005089.2, AC013429.12, BF341755, BF791960, AA877614, AU153686, BF340330, AI199494, AW004725, AA628899, AI042456, N74995, AV753372, AI916084, BF437469, BF446199, BF509743, BG035423, AI563977, AI276433, AI953416, AI659007, AI351215, AW769176, BF448885, BE042362, AI401836, AI440396, BF337499, BF970652, AA504557, BG164558, BF816037, AL515323, AI633125, AI670009, AI433157, AI702073, BF812431, AI500061, AW834302, AI637584, BF812961, BF792047, AI815232, AI471909, AL513991, BG166654, BE966278, AI687362, BF856017, AI929108, AW090071, AI915291, AI887308, AI866770, AI698391, AW163834, AW198090, BF814450, AW087445, AI345587, AI889189, AL110306, AI863241, BF856052, BG107844, AL515413, AI283760, BG110577, AL039086, AL514025, AW148363, AW073865, AI612852, AI580435, AW190194, AI270183, AI582932, AI521560, AW131331, AI249946, BF970768, BF726421, AI826636, AA928539, AW935969, AL515089, BE965432, AI473471, AV682414, AL036780, AW268302, AI345415, AI890223, AI796743, AL513999, AI274759, AL514579, BF103225, AW827289, BF339322, AL514867, BG108288, AI678496, AI677796, AW130776, AL513817, AI633979, AW673679, AI288285, AI587114, AI932794, AL119836, BF724894, BE964614, BF904180, AI445992, AW301505, BF885082, AI912356, AL042745, AI340519, AI249877, AL513937, AW169671, AW192652, BF680133, AI434468, AW806761, AI699056, AA259207, BF813196, AV757827, BF791937, AI801325, AI564719, AW152182, BE965621, BF904194, AI242248, AA420722, AW118518, AI768496, BF868489, AI890214, BE965599,</p>
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HKAFT66	155	946512	1 - 987	15 - 1001	

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HKGDL36	158	877489	1 - 1038	15 - 1052		BF966686, BF969262, BE798423, BE383172, BG108317, BF438085, BF967072, BF724971, BF310167, BF437374, BF525713, BF725537, BE312863, BE327726, BF526596, BF983368, BF966496, BE392518, BE045542, AI261620, AI628667, AI955247, AI796185, AW024651, BF724972, AI365220, AI767645, BE551437, AW051507, AI199503, AI418919, BF724666, AI039610, AW162506, AI955309, BE673721, AW138191, AI969138, AW583447, AI373491, AI696987, AW583390, AI952012, AW341037, BF310234, AI758216, BF438130, AW013963, AI955147, BE669440, AI768473, D61105, BF592013, AI355910, AI969092, AI913491, AW027769, AI423438, AI968975, AI479582, AW090177, H41372, AI927970, AW300071, AI400855, AI348277, AW771649, AI672352, AI991536, AI421291, BF739771, AW103643, AA894790, BF197412, BF724667, BF197448, AW583609, AW000953, AW299323, AI498193, AA199635, D59847, AV748923, AI560270, AI625846, AI493832, AW590037, AW955700, AI702136, AA877175, AW583672, AA757536, D59877, AA706516, AW393735, D60795, D80419, AI302316, AI248555, D80214, D80684, AI927667, AI627691, AA989221, BE464388, D59878, BE218723, BF346124, AI985164, AW000934, BF967708, AW001692, AI701771, D59848, D59725, AA873392, AA364835, BF431598, H92678, AW135417, AI589246, AW072965, AW163721, AI916619, BF752892, BE964512, AL515163, AW022102, AI783861, AL513839, AA600801, BE621073, BE544111, BF815196, BF910849, BE963809, BF814409, BE784387, BF840099, BE963918, BG170109, BE613727, BE880341, BF814360, AW005029, BF921092, AV712606, AV681927, BE967251, BE964621, AI866741, AW059713, BG108334, BE536377, BF929585, AI254754, BF764538, AA824513, AW083804, AI539462, BF129016, AI446605, AL513741, AA830821, BE966699, AI924035, AI445976, BE875966, AI242248, BE885353, BE538466, AI620093, AI537643, AI358042, BE880697, AI683255, AI591412, AI591081, W81248, AI536910, BE964962, AW834325, AI864827, BE048026, AI872159, BE061389, BE964767, AI591057, AW073868, AI863256, AI690449, BE907440, AI884574, F35927, BE878032, BE965121, N95566, AV743128, AV706465, AI445588, BE899377, AI934000, AI280670, AI583578, AI627714, AI500039, AV708075, BE900603, BF752858,

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HKISB57	159	625956	1 - 1478	15 - 1492	<p>AB049849.1, BC002539.1, AL162008.1, AK024538.1, BC005007.1, BC002647.1, AB047887.1, AB047623.1, AB060873.1, BC004265.1, AK027081.1, BC001293.1, BC008485.1, BC001045.1, AK027164.1, AL136644.1, AL122098.1, AK000655.1, AK000421.1, S69510.1, AL137284.1, BG253059, AI888563, AW083174, AI890983, BE677527, A1742994, AA581853, BE208188, AA496043, AI749573, AI433172, AA912116, AU152415, AU151244, AA526295, W72233, AI708515, AA029171, AI289783, AA147482, AW001857, BE744941, BF851250, W76470, AI148076, AI619715, W32695, AI973179, BF856405, AA086231, AI536682, AI244167, AW205328, AA112137, AI015550, AI159953, AA449234, AA449289, AI886087, R48602, AW974749, R48705, N57904, W73612, AA515533, AI095398, AA086322, AA554446, AA317019, BE019888, R07096, AA894669, AA112027, T96414, AA923651, T96497, AI581984, AI093238, AW084446, BE834394, T65129, AA100811, BF767404, AA652428, W32694, AW364698, BF371383, AW390788, AI903419, AI903380, AI903350, AA300051, AW886927, H55267, AA029067, AA588851, AA588463, BF931116, BE646329, AW514396, T65909, AW578218, AW800794, R07042, AA625855, AA663955, AA687595, AI581808, R76016, W22074, AA043407, AA436950, H39017, BF814527, AI824576, AI702073, AI698391, AW080090, AI633062, AI608936, BE786043, AI358213, AI306705, AW983832, BE963838, BG179993, AW051258, AI677796, AW051088, BF856017, AI932794, AI366900, AI352497, AI889189, AW983829, AI270183, AW163834, AL514731, AI434468, AI812015, AI249877, AI679672, AW118518, BF812960, AI284131, AW029611, AI468872, AI699011, AI927755, BF792961, BE966388, AI886753, AW827289, AI564719, AV743962, BG108406, AI567846, AV741327, AI573060, AI783504, BG112718, AI620284, AI866770, AW198075, BF032768, AW083778, AL514899, AI611738, AI280732, AI619502, AI680162, AI802542, AW081255, AI280607, AI499285, AI570807, AW004886, AI452560, AW026882, AW151136, AI923370, AI627988, BF812938, AL118781, BF970652, BE789764, AW104724, AI670009, AI863382, AI433157, BE543089, BF812961, AI452993, AI624548, AI659795, AW079572, AI860783, AI633125, BF812426, F27788, AW089179, AI673785, AI915291, AI354998, AW152182, AI537024, AI917252, BE967261, BF725599, AW080746, AL120853, AW129659, AW163554, AI537677, AI499890, AI612852, BF526020, AI174394, AW192461, AI613270, AW105620, AL119863, AI520809, AI923989, AL036673, AI571909, AI803778, AI653979, BG036846, AW192687, AV682249, AL514357, AW839006, AI274507, AI632408, AI288305, AI635067, BG180273, AI612913, AL119828, AV682212, AI590686, AI435268, AI432030, BE048071, AI500588, AI628217, BE047606, AI637748, AW238688, BG029829, AF064238.3, AJ010306.2, Y13492.2, Z49989.1, AF115564.1, AF115570.1, AF115567.1, AF115569.1, AF115568.1, AL122098.1, AL137533.1, AB056420.1, BC006195.1, BC005858.1, AK024524.1, AL133067.1, AK025092.1, BC001045.1, AL137550.1, AL080159.1, AK026462.1, AK024538.1, AL512733.1, AL050277.1, AL389939.1, S61953.1, AB056421.1, BC008893.1, AL137294.1, BC001963.1, AL389982.1, AF026816.2, AL136844.1, AB060852.1, BC008488.1, Y14314.1, AF260566.1, AL136805.1, AL049283.1, AL512684.1, AK025209.1, AK026593.1, X82434.1, AK026542.1, X72889.1, AL137560.1, AL137271.1, BC004951.1, AB060916.1, AK026532.1, AF183393.1,</p>
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HKMLP68	161	1037919	1 - 2770	15 - 2784	<p> AI364620, BE620084, AI343119, BG109221, AA100151, BF796402, AV760181, AI349012, AI627692, AA765010, BE885490, AW021373, BG033906, AV756956, AV764180, BE011885, AI559654, AC005551.1, AF217998.1, U91329.1, AK026600.1, AF197929.1, AL137555.1, AL133093.1, BC007797.1, AC004227.1, U68233.1, AK027114.1, AL359583.1, BC007534.1, AL137662.1, X86693.1, BC002688.1, BC004145.1, AF217991.1, AK025549.1, BC005094.1, BC008196.1, BC006147.1, BC007280.1, AL512746.1, AK000632.1, BC000007.1, AF111112.1, X53587.1, AL136816.1, BC006481.1, BC001128.1. </p> <p> AV700405, AI433307, AI478641, BF115123, AI566076, AI522321, AW272244, BE048940, AW771517, AV686299, AA931216, AI522047, BE048682, AW302179, BF593517, AI493025, BE465247, AI733508, AI253208, AW269237, AI493090, AA994816, AW194908, AI470525, BF195989, AI251700, AW302730, AW303037, AI991553, AA483217, AW302855, AW276682, AI252712, AI753542, BF588847, BF476811, BF592327, BF476595, BF476913, AW302739, AW302750, AI053773, AI053862, AI251385, BE150062, BF057909, BE139717, BG054991, BE151860, BE049019, AW271017, AI254627, BF994752, AI344886, BF994765, AI053963, AW813842, BE462225, AI053711, AI254684, BE139333, AW803234, AW302803, AI311626, AI311753, AI345102, AI308518, AI207861, AW268777, AW086339, BF588798, BF477136, BF477272, AW872616, BF000717, BF592672, BF592457, AI792443, W02028, AW085628, AI491784, AW440273, AI252858, AI611561, BE151878, AA568394, AW148344, BG250868, BF592613, AW270496, AI744801, AW170681, BF063830, AA885499, BF828046, AL110366, AW303221, N53462, AV737541, AI400721, AW183037, BG003487, AW134612, BE350371, AW302321, BE061293, AW880188, AL041838, AV750368, AW468575, BF940671, AW268767, BE772109, AI935032, AW262442, AI310879, AI559284, BE300331, AI053588, AW148392, AA668673, AA345280, AA191610, AA223924, AA703680, BE837515, AA250763, AA206026, H80554, BF925682, AA706521, AA664331, AI254217, BE138525, BE837483, BG105129, BF222392, BF445303, BG015618, AW955564, BE067485, BG001163, AA528253, BF974534, AI073889, AA789229, AL049270.1, AC011545.4, AC004844.1, AC011286.7, AL354997.17, AL024509.1, AC016716.6, AC005553.1, AP000092.1, AF386492.1, AC007248.3, AL121777.39, AL360085.26, AC012081.16, AL021808.1, AC011456.2, AC007688.15, AL109982.1, AC006380.2, AP001835.4, AC019187.3, AL391724.7, AL358855.16, AL031655.8, AC090511.3, AL136088.10, AL157829.24, AC002461.1, AP000522.1, AL591046.4, AC006120.1, AL023653.1, AC024084.4, AC005277.1, AF001549.1, AC005017.1, AC012063.7, AL049737.4, AL445243.3, AC007350.1, AC017019.3, AL049744.8, AC004554.1, AC006210.2, U96409.1, Z83819.1, AP000066.1, AL009051.1, AC011890.4, AC005886.2, AL121590.11, AC004409.1, AC00369.1, AP001207.3, AC008085.1, AP000695.1, AF195953.1, X12818.1, AC009073.8, AL049759.10, U13369.1, AC004967.3, AC006033.2, AC012531.11, AC091736.1, AC007464.4, AC005875.2, Z95114.19, AC025167.6, AC004854.2, AC009517.5, AL355146.13, AL133281.11, AC008838.5, AL360089.13, AC027121.5, AL137059.20, AC004147.1, AL139112.9, AC011519.7, AC018796.4, AC034242.5, AC000368.1, </p>
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HKMMW7 4	163	581399	1 - 1780	15 - 1794	AI524360, AA582463, AW970030, AW088049, BF845261, AV744082, BG166773, BF970654, AL137859.3, AC008784.6, AC022382.3, AC079844.3, AB038490.1, AC007917.15, AL158070.11, AL136231.12, AP000555.1, Z96074.4, AC006430.22, AP001695.1, AL354811.13, AC078958.30, D87675.1, AL138849.12, AC004019.20, AL391415.12, AC079950.23, AL117694.5, AC004935.1, AL121834.20, AL109921.21, AC008551.5, AF200465.1, AC008892.5, AC068799.14, AC006036.3, AC005725.1, AC015982.9, AL391262.3, AC004104.1, AC005079.6, AL132988.4, AP000692.1, AL590116.8, AL158144.15, AC005305.1, AC003049.1, AL022313.1, AC005520.2, AL353135.32, AL117377.18, AC025887.4, AC004468.1, AC083876.2, AC004774.1, AC004634.1, AL121900.26, AC034198.6, AC006460.3, AC005522.2, AC018828.3, AC067742.5, AC022383.3, AL161655.8, AL445686.14, AL031224.1, AP000128.1, AP000206.1, AL021154.1, AC009006.6, AF111167.2, AL589782.7, AL590785.7, AC021016.4, AL13387.8, AC006115.1, AC026439.3, AL034394. 2.
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HLDBX13	166	815665	1 - 1801	15 - 1815	AL1632044, BF871813, BF747135, AW630757, BF873312, BF770534, BF813448, AL1608881, AA101562, BE792267, AL687737, BF771639, AA513370, C75490, BF848642, AW999404, AA861308, AA890390, AA486100, AW190875, C75621, AW339937, BE871109, AW338261, AI799264, AI193265, AA149993, AI469580, AW936241, AI925871, AI002582, AI955238, AI333843, AA486163, AI241578, AA702259, T86963, AI263270, BE350662, AI093487, H57108, BE934125, BF747862, BF807059, BF813934, R01692, AA837819, BF849699, BE927881, AW936086, AA714224, BF984148, BE927955, BF871808, AV725597, AI273968, BE386265, AV726550, AI350492, BF946044, AI633478, AW877520, AA342901, AW419262, BE063486, AI653886, AI761471, AA641989, AU147898, AW502975, BF998270, AL120483, AW903691, AI306524, AI312259, BF842579, AW405759, AC005899.1, AL355593.21, AC006026.2, AP003352.2, AC004491.1, AP000133.1, AP000211.1, AL163032.3, AC078962.30, AL163282.2, AC009756.9, AC010458.5, AL160471.5, AC008543.7, Y07848.1, AP000563.1, AL590762.1, AL031666.6, AC008498.3, AC009247.12, AC007666.12, AL049761.11, AC008982.5, AC022211.5, AC007850.29, AL136418.4, AL139054.1, AC020934.7, AC006126.1, AC024163.2, AP000692.1, AC005412.6, AL109804.41, AL354707.17, AL158830.17, AC010271.6, AP001630.1, AC006071.1, AC000052.16, AL137818.3, AC007216.2, AL035072.16, AL162505.20, AP001711.1, AC005067.2, AC008891.7, AJ009613.4, AC011559.3, AC022087.8, AC005193.2, AC010422.7, AC005324.1, AC003086.1, AL109627.18, AL109628.5, AC005632.2, AL031668.23, AL132640.4, AC008392.6, AC003962.1, AC006337.4, AC005280.3, AL136137.15, AC006515.7, AL049759.10, AC011464.5, AL513008.14, AC004975.2, AC008812.7, AC026061.8,



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HLDQC46	168	847397	1 - 618	15 - 632	BF063353, AL360256.1, AL117482. 1. AW274515, AA442374, AL522283, A1806931, A1928433, A1092561, AA628013, A1184518, A1262020, AW363180, AA729980, W92109, AL516443, A1436261, AA659720, AW340561, A1803297, A1802763, AA527556, A1186442, R77144, AW593087, AA953344, W91980, A1444603, R54966, A1799506, A1831001, F24469, A1934101, Z38258, AW451099, BE813043, A W956287, H00226, A1028279, AA649995, T35406, F35703, W23709, R71423, AA548429, AL530766, R77145, W35309, AL522284, N39838, A1940309, BF527253, H27628, BE896237, H44089, AF327923.1, AC006330. 5.
HLDQR62	169	753742	1 - 2558	15 - 2572	BE876197, AU133975, AW170131, AV723948, BG178057, AV652458, AW836234, AW608052, AA047046, BF104746, AA486037, BE395776, AW385580, AA488655, BE699041, AA932253, BG104619, BF671350, AA854943, AA418105, AA829456, AA243385, BE699051, BE936060, A1346694, AA418007, AA503398, AA053835, AW067836, AA878478, A1309218, BF820483, AA287990, W37960, A1401102, A1279485, W37900, A1423510, AA610711, A1050735, BF939011, BE699047, AA701403, W30974, AA017371, AW385388, AA911160, BF928600, H10281, W32542, AA133579, AV721259, H81907, BE908122, H11712, AA657490, H09562, R97956, BF810354, N68428, BF841567, AA018681, BF810349, AW838671, AW274397, BE699044, BF737894, H17436, AA133578, T03483, BF529092, BE699011, R93915, T84200, H10225, R97955, N91220, F09018, BE244933, BE697384, AW474873, Z43397, AA677745, F11358, AW838680, Z42508, H08994, H11779, R18755, AW067888, H86384, R20010, R44826, T78746, BE546845, BF768165, AA676360, Z41104, R12303, R61069, H80952, H01770, BF362799, AA857228, BE092626, AW361033, BE246721, R12953, F11514, AA298600, AA233314, H82000, Z45386, AA047038, AA988879, AA776420, R61792, BF925722, F02025, H37922, AA946813, AA058662, BE793798, AA298811, AW954042, A1024907, AA515707, AA579408, C02381, H38137, H80857, AA190438, AA059270, AW953912, W32541, A1253018, BF755527, AA252608, H39230, BF087406, BF841077, BE699066, F09175, AW608049, R36072, AW607934, AW242636, F02790, AA018740, BE092426, N47523, AW951415, BE872758, AA670010, BF793691, H86054, BE699208, AA017201, AA059226, BE857637, BG011131, AA233315, AW169463, BE935974, AA910836, BF756516, AA504287, AA489248, AW452612, BE858890, BE699076, AA953019, AA191764, BF930488, BE746764, AA552521, BF932022, BE080981, AW385586, BE092405, BE047109, AW838675, BE074538, AB046801.1, AC026749.5, AC026437.5, AC010491.3, AK001799.1, AF274753. 1.
HLDQU79	170	740755	1 - 1474	15 - 1488	BG256275, BE867624, BE907396, BE855521, BF034422, BF530803, AW959247, BE782005, A1126689, AL121446, AA757065, AW630129, BF768037, BE746763, AA206154, AA460401, A1276320, BF998689, AA295243, BE242732, BG035901, AL040350, BE242810, T86168, BF983867, W05088, AA347337, BG252443, A1133502, AF064093. 1.
HLDRM43	171	846330	1 - 595	15 - 609	AA502331, AW444616, AA568450, AW592433, AA503839, A1017393, AW957011, T85589, T78178, T72043, T85588, A1699382, BF593574, AA299977, T86494, AW956056, AW605240, AA335186, AA551860.

HLDRP33	172	647430	1 - 598	15 - 612	AP000301.1, AP000045.1, AP000114.1, AC005080.2, AC004878.2, AP001717. 1.
HLHAL68	173	684216	1 - 690	15 - 704	AA359084, AC018797.4, AF224669.1, AF283321.1, AC007883.3, AC006038.2, AC034251.5, AC006345.4, AC008149.14, AL355392.7, AC006057.5, AC084864.2, AL354720.14, AC084865.2, AC006435. 7.
HLHFP03	174	460467	1 - 599	15 - 613	H46196, A1421986, H19572, H46195, BF947135, H19490, BF738481, BF994257, BF127477, AW139949, BF947011, AF321824. 1.
HLIBD68	175	778073	1 - 1008	15 - 1022	AL538046, BF975484, BG260893, BF062040, AW250850, AW954319, BG118275, A1633756, A1436560, BE646174, AA975057, AW302253, A1651397, A1825665, A1479926, A1635567, A1612806, A1640598, A1653427, A1248825, BF770160, A1333221, AA609320, A1916748, BF346659, AW001438, BF941021, AA397893, A1083783, AA399663, AA302889, AA484860, A1659648, BF222019, A1692578, R49550, AW016187, AA393712, A1673346, D80738, D81106, D81495, D81643, C15479, A1696498, C15522, R42643, A1761655, AA302888, D81794, D81487, D60344, AA302884, AA302883, BF813253, AA091824, BE743563, N49704, A1476597, D81533, N87760, BE396027, AA352126, AA281538, AA280240, AL133447. 1.
HLICQ90	176	791828	1 - 1752	15 - 1766	BF980403, BF726329, A1984197, A1192533, A1559494, A1378638, AA430026, A1061413, AW172705, BG165333, A1190915, AA430235, N62729, A1689890, A1360764, AA705532, H90333, H30177, T99745, H78217, T86019, H26993, T91236, AV645894, AA330598, N75483, H42449, BE766728, AW135351, AA976652, AA383620, BE220880, A1630095, BF381551, BF767606, BE087130, H42847, W05293, AA911697, A1659925, BE766726, H82733, T99746, BF889067, AW955970, AW971740, A1432644, A1431328, A1623302, AW968355, A1431347, AW972091, BE672759, A1432653, A1431230, A1432654, A1432655, A1431310, A1431312, AW081103, A1432677, AW968356, A1431323, AW972093, AW968729, A1431354, A1432661, BE672719, A1431307, A1431316, BE672732, A1431337, A1432650, BE672745, BE672748, A1431238, A1492519, A1432675, A1431350, A1431231, BE672767, AW972092, A1432651, A1432647, A1431243, A1431330, BF448552, BE672742, A1432662, A1431248, BE672644, A1432657, BE672774, A1432649, AW972090, A1791349, A1431257, A1432665, A1431247, A1431318, BE672738, BE672792, A1431235, A1431321, A1431315, A1431246, A1432643, BE672743, AL042519, BE672640, AW129223, AL042931, BE672622, BE672627, A1492510, AL042729, AL042832, AL047611, BE672754, BE672626, AL043295, AL357075.17, AF064854.1, AL133082. 1.
HLMBO76	177	626831	1 - 801	15 - 815	BE962422, AW027068, BE617458, AW978331, AW992560, AW274834, AW131841, N32595, A1917820, A1907429, A1610587, A1348386, R50855, T16683, AA807222, R42665, R45605, R15777, N47819, A1699177, Z39130, M85559, AB033057.1, AF275817. 1.
HLTEJ06	178	543017	1 - 603	15 - 617	AL525142, AW274273, BE327124, A1885095, A1885299, AA085210, AW340136, A1985381, A1369742, AW086489, BE298417, A1476470, A1039658, A1034384, A1333584, BE298210, AA455921, A1287650, AW592624, AA456390, A1266556, A1672315, R14963, BF688522, A1310815, AW962407, AA902537, AW954994, AV707146, AW960308, AW952064, AW960237, AW965813, AW963378, AW963660, AV703158, AW955713, AV727916, AW955616, AW951707, AV705433, AW954006, AV708850, AW960276, AW959059, AV709232, AW958280, AW966031, AW957853, AW953868,

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HLTHR66	179	699812	1 - 2272	15 - 2286	<p>AW978874, BF507862, BF033134, AL135232, AI673052, AW612437, AW880652, BF508030, AW118937, AI912990, AI651420, AI754531, AI285856, BF431306, AI760176, AI805972, BF511821, AI123209, AW001864, AI377932, AI141443, AI743946, HI9020, BE857717, AW962968, AI221575, AA588506, BF475287, AA026012, AI249502, AI660528, AI949710, R68887, AV653095, AA026000, R77684, HI9313, AI460280, AA829761, AA357748, BF511571, R77685, BE671786, AA084602, AI687732, AW889295, BE002919, AI812062, BF365444, C21025, AL136231.12, AF147395. 1.</p>
HLTIP94	180	1087335	1 - 1226	15 - 1240	<p>AA552985, AA314716, BE778519, BE894256, BE779796, AA228139, AI802948, AC005325. 1.</p>
HLWAA17	181	629552	1 - 983	15 - 997	<p>AL522002, BF305304, AL521608, BE732838, BE899550, BF344719, BG115015, BG109203, BF982386, BE410162, BE735023, BE901175, BG117962, BE281306, BG165427, BF793440, BE901577, BE872442, BF316646, BE409982, BF982251, BF970528, BE262711, BE299415, BF340859, BE386152, BF569778, BE281612, BF305644, BG251248, BF673757, BF183244, BE547252, AL521166, BF237978, BG249255, BE280374, BE301893, BG109330, BG164142, AL522550, BE018945, BG170896, AW732476, BE779176, BE018944, AL522064, AW250139, AA580387, H20615, BE741195, BE736037, BE272171, AI752100, BE870251, BE742694, BE883834, Z42865, W21970, AA873793, AW579408, BF753347, AA204913, AA206511, AA158660, BF971112, H66924, R25678, AA233944, BE743048, BE743976, BF304498, BE546682, BG112068, BF317329, BE278514, BF878947, BE744899, Z25248, BG248593, AW675147, T56764, AA368717, BE793472, AW956985, BE246887, BE298316, BE410692, BE707861, BF125052, BE388318, BF970723, BF675911, BE868990,</p>

					BF031826, AA380216, AJ271671.1, BC007886.1, BC002563.1, AJ243649.1, BC003152.1, AF151829.1, AF132942.1, AJ243650.1, AC004832.3, AC005585.1.
HLWAA88	182	588485	1 - 1756	15 - 1770	AI075040, AI566035, AI346970, AW453036, AU136077, AW572319, BE677521, AI971962, AI354722, AI611131, AI285086, AI017423, AW612105, AA719963, AI493120, AI910743, AI346087, AA860835, BG055741, AA995966, AW235992, AI188298, BF740313, AI205497, BG055743, AI949884, BF851530, AA939291, AA883259, AI985431, AA070019, AA613006, BE075994, AK023527.1.
HLWAD77	183	653513	1 - 1153	15 - 1167	BG250493, BE786038, BF968793, AI148564, AV714668, AI911259, AV717040, BF031366, BF970799, W60958, BE221213, AV701362, AI683823, AW268612, AV711084, AW275920, BE551456, BE551386, BF244446, BE550880, BG110482, BF669035, AA404358, AW956755, BE669452, BE504275, BE674209, AV763474, AA443743, BF381847, AI271616, AA936391, AI675766, AV703458, AI695003, AA403095, BF968311, AI311856, AI082141, BF036575, BF575757, BE905833, AA503819, N30670, BF027805, T86418, AI079408, AA393808, AV711478, BE872085, AA393892, AA827290, AI189388, AA910984, R21152, H96780, AW804422, AI014740, AA804216, AV714823, AI219049, H23300, AI566294, R99539, BF724670, N75557, R99538, AI299755, AA476793, AA974212, AA417638, AI374805, AW952564, AV725011, AI094470, AI133161, BF221760, W05584, AI089034, AA905867, T86508, AA677753, R99550, BF753822, AA335337, AI240536, AA313386, AI538267, AA918453, BF811514, H23186, H92649, W87796, AW445161, Z40615, BE272827, T33983, AW298229, R08382, BF475310, R08329, H97711, H96103, H80948, T99199, N24555, AA375092, T99198, H92437, BE260997, AA383378, BE536680, AI085108, BF920784, AF132289.1, AF242523.1, AK024574.1, AF151859.1, AC004148.1, AC024082.6, AC009263.6, AA419545.
HLWAE11	184	783071	1 - 1604	15 - 1618	AI344312, AI276017, AI476822, AI139478, AI160906, AI240398, AW001088, AA425919, AA011278, AA428788, AI354692, AI089176, AA622689, BF431807, AI968918, N68826, AI467807, BF436247, AW673768, AW135943, R24434, R16812, R31419, R31434, R24435, H83155, AI865939, R31418, AW673133, W67349, R31433, AA027080, R28030, BE542160, T81223, AI631986, AA677315, BF760063, AI872675, BF331923, BE926682, BE926741, AF329842.1, Z82188.2.
HLWAO22	185	587270	1 - 1324	15 - 1338	AL515814, AL515776, AL534165, AL520605, BF342613, AI064806, BF528629, BE856301, AI140344, AI763061, BF063934, BF244655, BF683133, AW340290, BF344711, AI659614, AL515777, BF034915, AI554886, AI086027, BE929854, AW193974, AL515815, AL525649, AA410368, AI937139, AA918821, AI218197, BF313091, AL525747, AA829365, AI336469, AW473975, AA577435, AV645326, AW070946, H22929, AA722774, AI610462, T90764, AA404313, AI623603, R54057, AV723824, AA404713, AW168607, AA079100, AV752738, BF316436, AW402756, AA912779, BE742923, AL534166, AA609213, BE350786, AA406191, AA923714, AW750290, AA325220, AW952354, BE898647, BF092248, AA293154, AI218895, AI198020, AI672973, BG002684, AA649195, W81523, H08723, AW207732, AA927962, AI873660, AA774521, BF880685, AL520606, BF837510, AW794716, BE044401, BF767735, AI383372, AI204653, AI361791, Z39695, BE673415, H70703, R54056, AI187740, H24109, AA079003, AI867628, AA330197, BF310103, BF854730, BE797091, BE737142, BF541812, AI689520, AW297870, BF965605, AW590611, H08439, BE263819,

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HLWBH18	186	1045194	1 - 799	15 - 813	BG000096, AC023490.5, AC018636.4, AC006435.7, U95742.1, AL121891.22, AL451142.7, AL035659.22, AC020716.3, AL136179.15, AL450339.5, AC007216.2, AL136418.4, AL139054.1, AC011533.6, AC000159.6.
HLWBY76	187	797609	1 - 2067	15 - 2081	AA923172, AI139607, AI269739, AI802946, N30680, AI2777957, AI277237, BE715040, BE838082, BF354274, AW797336, AW797335, BF987948, AW873630, AI806044, AK026806.1, AC003991.1, AK027807.1.
HLYAC95	188	778075	1 - 298	15 - 312	AV764526.
HMADK33	189	561941	1 - 850	15 - 864	AL538273, AW139111, AA663592, AI582741, AL120259, H51572, AI122619, AI124509, BF366373, R86660, H50906, R86835, BF836623, BE884648, AF070673.1, AF030196.1, AL161976.1, BC005837.1.

HMADS41	190	596831	1 - 1253	15 - 1267	BE740695, BE739906, BE899124, BE742745, BF685920, BF971897, BF684948, BE336652, BE747520, BE925550, AI733012, AI492192, BE207602, AW275042, AA954656, AW139807, AI791409, AW136444, AI361524, BE207644, AI762361, AI246377, BF684146, AA306161, BF062047, BF222947, AW003832, BG028044, AA865078, AA402599, N32269, BC007725.1, AF123757.1, AF123758.1, AF123759.1, AF123760.1, AF123761.1.
HMAMI15	191	1352406	1 - 1244	15 - 1258	BE790239, AI114496, BE047613, AI609021, AI478544, AI949665, R96283, AI205799, W39248, AI670908, T70976, AA070919, AI243978, AW854183, AI796472, BF883407, AW975683, AA654405, AI125888, AA730911, AA545731, BE222003, AA730927, C21177, AA721678, AI478489, AL137139.9, AL139035.27.
HMCFY13	192	635301	1 - 869	15 - 883	BF026299, BE277091, AI343297, BF027218, BE390121, BE387283, AL514638, BE388858, AI364111, BE389119, AI668959, BE391988, AW206551, AA676232, BE870993, BF002101, BE277034, BE729557, BE276352, BF125430, BF896609, BE386944, AW207225, AA551687, BE718320, BF131318, AI990714, BE693868.
HMDAB56	193	560676	1 - 1451	15 - 1465	AI075053, AW972336, AI199257, AA493693, N80663, AW879550, AL138455, AA633753, AA640410, AA640430, AW815064, BF820510, AA018283, AL037554, BG033220, BF822854, AV759329, BG033926, AL120343, BE062169, BF679557, AV757425, AI631355, AW129526, AV710289, BF868399, AW063373, BF437493, AW936354, AI094787, AW500029, BF915002, AA908411, AV760207, AV761925, AW975971, BF666395, BE858219, AV764035, AI137841, BF679274, BG002515, BF698704, BE064275, AA493136, AI700109, BE883107, BF699964, AI918465, AA507547, AI805123, AP002088.2, AC008014.5, AC009470.4, AC011450.4, AL133480.9, AL356244.12, AP000493.1, AC008521.5, AL353741.16, AC004638.1, AL139148.11, AC011475.6, AL158832.13, AC004634.1, AC005102.1, AL135749.3, AC010105.12, AC000088.2, AC019197.7, AL133214.12, AP000901.5, AC008891.7, AC021188.6, AL049776.3, AL117355.5, AC002128.1, AL450483.1, AC007774.1, AL080315.18, AC008622.5, AL135901.23, AP001692.1, Z84485.1, AC007097.4, Z84480.1, AC022415.5, AC008747.5, AC000082.4, AC020908.6, AF121897.2, Z98747.1, AC010422.7, Z84720.1, AL109921.21, AC090944.1, AC074338.1, AC007318.4, AL136219.17, AC004841.2, AC003109.1, U82668.1, AC003103.1, AC020977.5, AF057280.1, L44140.1, AC004774.1, AC011242.8, AC020913.6, AL354935.23, AC069080.12, AL389888.8, AC007036.3, AL136359.13, AC005746.1, AC006441.13, AL133453.3, AC084732.1, AL353194.13, AC004466.1, AC004253.1, AC025165.27, AL160175.5, AC005840.2, AP000251.1, AC007225.2, AL161779.32, AL033378.12, AL359397.3, AL022725.8, AL159977.10, AP001412.2, AF196779.1, AC025765.5, AC007388.3, AC016697.8, AC006023.2, AF334404.1, U52111.2, AC008896.5, AL121655.1, AP003117.2, AC009320.7, AC004087.1, AL121992.24, AL136304.10, AL138759.20, AL031228.1, AC006211.1, AL121752.13, AL157406.19, AC025418.23, AC007012.1, AC006548.20, AL354670.4.
HMDAM2	194	514394	1 - 982	15 - 996	BF741516, BF740289, BF740290, BF741538, BF760315, BF911969, BF830386, BF759998, BE083615,

4						BF932902, BF763222, BE079695, AC004797.1, AB023141.1.
HMEAI48	195	1352290	I - 399	15 - 413		AA297104, AA298556, AA216561, AW957476, AL532709, AU124631, AA173361, AA206770, R14826, AL513976, BF726195, BF901681, AA873180, W20303, AF109127.1, AF109126.1.
HMEEDI8	196	560775	I - 1355	15 - 1369		BF967947, BF794640, BE744676, BE872383, BE261972, BF680443, BF967220, BE732377, AI417193, W95515, AW294641, BF306808, AI189166, BE856708, BE644954, AI949989, BF530795, AA628537, BE551422, BE747031, BE304795, BE735201, AI457735, BE870962, AI634510, BF131863, AI671536, BF242851, AI870629, AW514766, AI813311, AI862663, BE293244, AI768533, AI823596, AA129467, AI446582, AI435116, AI627345, AA972422, AI968606, AI088367, AI827354, BF439637, AI824877, BE220123, AV703921, AW236583, AI377591, AI040592, AA648774, AI095815, AW953613, D59730, D59523, AA029160, AW009152, AA054405, AI244209, AW023899, BE674038, BF059180, D59622, AA778356, AI470145, BF378975, AA970493, AI368877, D59801, AA129466, AI659586, AI344665, AI824866, AI803930, D59455, AA993837, D59633, R61441, AA704531, AW022576, AA484947, BF955158, D59447, AV725111, BE870487, AI082578, R35366, T74319, BF948389, D59583, D59781, R35909, AI365131, D59454, AW341984, BE467192, AI864239, D59649, D59777, H09254, T89104, AI128531, H23419, D59584, H09679, R23394, T77005, D59540, F13041, F10282, D80153, D80213, F10633, D59650, AA333625, BF855208, D59537, D59800, D59536, AI867775, AI7022258, D80146, D59825, D59539, R25274, AA301260, D59438, H23420, D80341, D59769, D80323, D80260, R61396, D59439, D59794, D59473, AA319561, R38088, R44178, R20566, D59692, F16283, D80260, R61396, D59749, AV726311, AA095729, D59772, AI088314, BF967226, AI383053, D59813, H22900, R14241, D59752, R40536, T34343, BF510049, F13475, D59782, AA346675, D80245, AI434889, Z43638, D59459, AW303981, D80381, BG054921, AW291373, D59812, AI418992, BF948033, AW516233, AI434666, BF837006, AW816352, AI356833, BF771676, AW340432, AA331587, AA332355, BF156021, AF353992.1, AK026257.1, BC008873.1, BC006150.1, AL512689.1.
HMEFT54	197	520307	I - 582	15 - 596		AI925461, AI187417, AA527170, W51933, AA534506, AI699870, AA430389, AW264729, AA284284, D20078, AI350867, AW131222, W48637, AA400891, AI458334, AI168826, AA400960, BF590627, AV719049, AV699669, AI557751, AW962245, AW975618, AA365173, Z21582, C14298, C14331, C15076, AV699550, AV724520, AW973541, AV718692, AW950117, D80064, AV719758, AV718489, AW949498, D59787, D59467, AA526218, AA701131, F13647, AW817409, AA434346, D80164, AV729929, AW964468, AI201668, D59889, D80195, AA507526, AV720791, AV718530, AI694178, D81030, BF382730, AV720203, AW960553, D50995, AV700889, BE148028, AU119190, R20046, BE001177, AW949645, D80196, BE748599, D51423, T41134, BF837744, AV718800, BF876179, D80212, C14227, BC002933.1, AK026989.1, AF254260.1, AL136917.1, BC008301.1, AF086205.1, AF254860.1, AC090939.1, AC005230.1, AF037338.1, AC004823.1, AC004922.2, AC020716.3, Z95116.1, AC025166.7, AL445184.11, AC009131.6, AC006581.16, AC010530.7, AP000172.1, AC003101.1, AP000057.1, AC005038.5, AP000125.1, BC005232.1, AC002407.1, AL031985.10, AC007308.13, AC002492.1, AC007021.3, AC012476.8, AP000688.1, Z98884.11, AC006241.1, AL355312.24, AL354932.26, AC004526.1, AC007387.3, AF283320.1,



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HMEGF92	198	520304	1 - 615	15 - 629	T65556, BF952979, F09666, AA995112, AA983746, AA983748, AP001972. 4.
HMSDL37	199	973996	1 - 2483	15 - 2497	BF358189, BF358186, BF358188, BF673854, AV762975, AA481760, AL042906, BE908602, AU154050, AU158859, AI310464, AA113159, AV718718, AW080062, AI952885, AL042905, BG029899, AA679794, BF813805, BE206133, AL048969, AI132963, AW401509, AV700988, AA113272, N49425, BF968610, AW975169, AA524604, AW157616, BE300645, AW008089, AV699423, AW976010, AV700654, BF679169, AI016704, N80210, AW151713, AU117926, AA427470, AW957502, AV760701, AL631119, N48230, BE895796, AW962035, AW979158, BF673743, AL534685, AA833875, AA833896, BF926318, BE061906, AA081138, AL044339, AW268329, AW960015, BG254652, AW600804, AU140392, BF820678, BF668559, AV764259, AA572968, BF736198, AV734543, BG222875, AW897556, BF892846, AC022001.3, AC018811.4, AC018494.6, AL353810.9, AC005553.1, AL139396.17, AL020995.14, AL163151.1, AL021918.1, AC022534.7, AL135903.12, AL161443.13, AC007912.6, AC018684.3, AC019052.7, AL163248.2, AJ400877.1, AC006313.1, AC022401.3, AC025165.27, AF274857.1, AL445186.4, AL137782.9, AL139322.13, AL355520.8, AC003065.1, AC004813.2, AE000659.1, AL139109.14, AC027670.4, AC021396.6, AC005033.1, AC007251.3, AC015723.8, AL392106.4, AC004073.1, AC007963.7, AC006544.19, AL353788.33, AL133500.3, AL512641.9, AC010376.5, AC073964.3, AC004650.1, AL157955.5, AL358372.11, AL359077.10, AL137918.4, AL035608.11, AL138783.6, AL135924.11, AP001189.4, AP002453.3, AL133373.5, AL391122.9, AL023876.2, AL163209.2, AC021093.16, AP001719.1, AC068643.27, AL121755.23, AC007068.17, AL359332.2, AL133241.3, AC007611.5, AL357060.31, AC078841.4, AL138880.14, AL159140.4, AL513264.8, AL138920.11, AC004021.1, Z92547.1, AC068102.4, AC089987.26, AC009289.8, AL163280.2, AC010282.5, AL157827.17, AJ006997.1, AC005066.1, AL163303.2, AC009122.8, AL035090.10, AL359205.15, AL133417.10, AC090497.2, AC007097.4, AC005280.3, AL359400.4, AC010591.8, AL354868.10, AP001718.1, AF131216.1, AC068312.4, AL109865.36, Z84480.1, AC009404.5, AC006543.7, AC007510.6, AL160162.11, AL354942.10, AC005862.1,

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HMSFI26	200	560229	I - 1203	15 - 1217	BF902399, W89152, BE391139, AW975663, AA767864, AW020255, AW021440, A1024622, AA730474, AA551532, AC069548.4, AC004906.3, AC004675.1, AC006965.3, AF088219.1, AL121574.19, AL139109.14, AC004813.2, AL162231.20, AC013734.4, AC012459.7, AL157955.5, AL391827.18, AC022407.6, AL034422.24, AC004216.1, AC011551.3, AL355336.15, Z83822.1, AC010252.3, AC008720.6, AL391122.9, AC000353.27, AC012377.5, AC011816.17, AC004408.1, AC007363.3, AC073101.7, AC01092.4, AC016396.5, AL117355.5, AC022201.4, AF235098.1, AL157372.18, AC007228.1, AL445237.16, AC008066.4, AL591770.1, AL162831.5, AP000355.1, AC026770.6, AL353588.25, AC006461.2, AC005840.2, AC005912.1, AC011456.2, AC009137.6, AL035079.14, AB042297.1, AL365400.19, AC003950.1, AC027126.4, Z98884.11, AL034369.1, AL031670.6, AC090955.2, AL157893.16, AC004685.1, AL133500.3, AC011497.6, AC018500.3, AL158206.8, AC019171.4, AC025168.7, AL034346.31, AC005736.1, AL133279.7, AL391724.7, AC002565.1, AP000284.1, AL080315.18, AL133410.31.
HMSGT42	201	383470	I - 1549	15 - 1563	AL533548, BG254144, BE789099, BE887081, BE878731, BG116125, BG025945, AW957637,

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HMSHM14	202	461897	I - 742	I5 - 756	AW817008, AW817118, AW951170, AL078634. 24.

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HMWGY6 5	209	1308287	1 - 1960	15 - 1974		AW963001, BF059395, AW466899, BF590276, AI582610, AI281917, AI983184, BE501967, BF848401, BE219310, AI359514, AI582296, AI033082, AW594623, AW770514, AI088503, AI307166, AI818405, AW272259, AI143722, AW204164, AI590378, AI285806, AA004670, AI580084, AA904597, R51653, AW293660, AA968840, AA358991, AI278964, AW970496, AA836864, AA699611, BF003024, AA292694, T05806, R51562, AI935808, AW243480, AW243365, R14788, AV741332, F37583, AA365140, AI814209, BE842966, AA004251, AW103604, R40100, H46612, AI270512, AA092304, AI989617, R63257, AV734885, AI161751.2, AL450109. 3.
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HNGAK47	216	561488	1 - 1130	15 - 1144	AL390802.2.
HNGBC07	217	1037631	1 - 1635	15 - 1649	D80268, AW960553, D80212, D59859, AW966534, AW978661, AV720151, D80253, AV701839, AW952839, AV699447, AW958993, AW973490, AW959597, D59619, AW978634, D80210, D80240, D80366, D59889, AW959799, AV720878, D51423, AW966331, AW949656, D80439, D80219, D57483, AW973482, AW966059, AW966398, AW966342, AW966369, AW973474, AA305409, AW975613, AW966368, AW959136, AV718489, D80166, AW973445, AW964967, C14389, AV719557, AV720616, D51799, AV722801, AV719822, AW966053, AV718692, AW973307, AW973447, AV719324, AV718938, AV718633, AW975605, AW966378, AW975618, AV719913, AW950578, AV718707, AW973488, AW966386, AW960454, AV720211, AV718931, AV720729, AV720731, AW973334, AW966388, AW966397, AW949498, AV723927, AV699866, AW949642, AW973473, AW959202, D81030, D80391, D59787, AW966029, AV718440, AV720028, AW966075, AW966065, AW966022, AW964737, AW960465, D80188, AW966332, AW966399, AW966531, AW958992, AW956397, AV702451, AW966041, D58283, AW966333, AW966013, D59275, D80248, AW960483, D80038, AW962082, D80022, AW949586, C14331, D80024, AW966330, D80195, AW975621, AW978648, AW966385, D59467, D80247, AW959582, AV692290, AV654329, AV655880, AW965163, D80164,

HNGEP09	219	499076	1 - 1028	15 - 1042	<p>AW973541, AW966030, AW964488, AW949641, AV720791, AW952852, AW966054, AW949645, AV720203, AW964756, AW966050, AV719188, D80043, D80227, AW949657, AW966062, AV719783, D59502, AW959628, AW960473, AW965177, AW959570, AV719468, AV718800, AW965185, AW965197, AW965196, AW973485, AW965184, AV720104, AW965175, AW966400, AW962395, D80196, AV718844, AV720464, AV718770, AV720150, AW966380, AV700229, AV724520, AW959062, AW964477, AW956434, AV699550, AW949500, AW964468, AW949654, AW964532, AV699927, D80251, D59610, C14014, D51060, D51022, AV720533, D81026, D80269, AV726330, AW966032, D80133, D50979, AV750778, D80522, AW966343, D50995, AW973330, AW975623, AW949629, AW949653, AW949631, AW949643, AA514186, AW949618, AW949655, AW966329, D59927, D80157, AV719945, AA305578, C15076, AV718530, AV719632, AV718487, D59653, AV719049, AV723097, AW966043, AW965176, AW973465, AW961136, D80193, AW965158, AW962245, D80045, AW949633, AW959469, AW978642, AW966389, AW960532, AV721386, D51759, AW949646, AW949632, AW949658, AV702365, AA514188, D80302, D80241, AW360811, AW966377, D80378, AW752082, AW753053, AW177440, D51103, AV720035, AW950117, AW699652, AV699746, AW949630, AV700889, AW966023, AV720812, C06015, AV702035, AW966379, AW178893, AL022339.1, AL021937.1, AB028859.1, AF058696.1, AB002449.1, AF271371.1, X67155.2, D34614.1, AB038216.1, D88547.1, D50010.1.</p>
HNGEP09	219	499076	1 - 1028	15 - 1042	<p>AW275971, AL369580, AW576034, AL353692.14, AC004638.1, AC027319.5, AC007011.1, AL354932.26, AK000932.1, AC074121.16, AC019171.4, AL390374.16, AJ400877.1, AL158830.17, AL109897.30, AC008403.6, AL121929.17, AC016025.12, AC002390.1, AL360227.17, AL049709.18, AL353777.18, AC004890.2, AC005098.2, AC005015.2, AL354794.16, AL590762.1, AC020931.5, AP001695.1, AC005052.2, AL121754.18, AC073655.26, AC004166.12, AC005225.2, AC010328.4, AC004876.2, AL133353.6, AP000553.1, AL136418.4, AL139054.1, AC004985.2, AL354873.19, AL121897.32, AC003962.1, AL121972.17, AC011472.7, AC011462.4, AC073316.6, AC079602.15, AL590763.1, AL023575.1, AC007216.2, AC005049.2, AL139095.15, AD000092.1, AL133453.3, AC011514.3, AC008072.3, AC009123.6, AC006130.1, AC005899.1, AC005800.1, AC016995.4, AL021368.1, AP003439.2, AC005740.1, AC004893.1, AC013726.7, AC007546.5, AL031727.42, AL109984.14, AC005280.3, AC020629.6, AL445490.6, AP000067.1, AC003010.1, AP000506.1, AC004520.1, AL121586.31, AB043547.1, AP000501.1, AC007030.3, AE006467.1, AC012476.8, AL512347.14, AC010203.13, AC004217.1, AL133387.8, AC051619.7, AC002504.1, AL096791.12, AL133347.28, AC004826.3, AC004910.1, AL031663.2, AC006544.19, AC069282.6, AF11168.2, AC005089.2, AC002551.1, AC020908.6, AL022323.7, AC011443.6, AC005914.1, AF001548.1, AC010271.6, AL049569.13, AC079630.18, Z93015.9, AL133246.2, AL356299.16, AC002984.1, AL121658.2, AC006088.1, AC006349.3, AC006125.1, AL096840.25, AC005971.5, AB000882.1, AC005519.3, Z93241.11, AL031447.4, AF196969.1, AC007686.5, AC005041.2, AC016587.7, AC009144.5, AC010618.7,</p>

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HNGFR31	220	553552	1 - 522	15 - 536		AL360297.12, AC005023.1, AC022124.5, AC008390.7, AC004836.2, AL136984.20, AC009558.14, AL117373.14, AP002350.3, AC006265.1, AC007057.3, AL139233.8, AC005079.6, AL359824.17, AP001541.4, AP000426.3, AL239322. 3.
HNGIU31	221	519120	1 - 782	15 - 796		AU147901, AA376128, BE562634, AC051619.7, AC020629.6, AL445531.10, AC009412.6, AC005052.2, AC079383.17, AL009172.1, AC016637.6, AK022380.1, AC004032.7, AP000555.1, AC009789.21, Z83851.17, AL359643.27, AC011005.7, AC008521.5, AC008635. 6.
HNGND37	224	839224	1 - 827	15 - 841		AA774312, BE670368, A1298480, BE702731, A1088824, A1149772, AA976633, A1870274, AA010606, AA010607, AW957725, AA010628, T33898, T75431, A1355909, AC005300.10, AC006946.20, AF307451. 1.
HNGOI12	225	1041375	1 - 2114	15 - 2128		AJ006345.1, AC005950.1, AC003675.1, AC001228. 1.
HNGOM56	226	836064	1 - 942	15 - 956		AA714124, AC016720.9, AL357075.17, AC008440.8, AF283321.1, AL137792.11, AC006060.1, AC004859.2, AL353668.18, AC004057.1, AL031311. 1.
HNGOW62	228	892160	1 - 1284	15 - 1298		BF755895, AB011086. 1.
HNHEU93	229	634851	1 - 734	15 - 748		AW502688, AW410844, A1444575, AW504667, AW157128, AV758849, AW974923, A1038029, AA533011, AW021674, AW731858, AA618531, AA554289, AA557945, AA046906, A1065031, AW963552, AL121039, BG180320, A1702049, BG059139, AA157876, BE080768, A1567676, A1745666, AV732057, AW953437, N72678, H53546, AL044966, BF942991, BF679568, BF724416, A1003068, BG059924, AA640305, BF439153, H47461, AA507623, A1921744, AA935827, AW265468, BF589864, AA831714, AW020682, A1572680, AA601336, A1791720, A1791408, BE049409, A1114755, AW962971, A1828721, AU158433, BE244547, A1251024, AV730440, AW148821, AW474825, AA631915, A1791659, AA595661, AA610644, AW023975, AA657392, AW029626, AA834891, A1884404, AV743067, A1890283, BF944618, A1609992, A1797998, AW970856, BG223384, BE677164, BE150831, AW836225, AA658890, BE882869, A1031759, BF913232, AA493245, N55076, AA019793, AA523718, A1888050, H48017, AW576388, AV763460, AW192930, A1076729, AW021847, BF431825, AA652675, A1708565, AA315052, A1734076, A1281622, A1064968, A1538404, BF950367, AL138262, AA632355, BE676988, AA527633, A1052366, A1445699, BF849260, A1634466, AW960129, AL523272, AA411337, A1640905, AV729090, A1312267, A1570067, AV728973, AW675677, A1701898, BE676910, BF973510, A1889614, BG250794, A1571094, AW239465, BF725844, R92703, BE391183, AW028376, AA578711, AL590005.6, AC055740.17, AC090950.1, AL161757.4, AL391375.11, AL158063.12, AC022542.4, AP002898.1, AL161779.32, AL109804.41, AL157700.13, AL136123.19, AL359397.3, AL359273.11, AC007597.3, AP001781.4, AL121932.19, AL109847.5, AL109825.23, AL163209.2, AL390838.26, AC011740.7, AL138880.14, AL137918.4, AL139109.14, AL031229.2, AL035427.17, AL354937.12, AC005303.1, AC006249.1, AC006487.8, AP001713.1, AF334404.1, AC002312.1,

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HNHFM14	230	664507	I - 283	15 - 297	
HNHFO29	231	463568	I - 685	15 - 699	N68677, BE063506, AA659190, AW063123, AW797598, AW337282, AW074332, BF844388, AA573067, BF844391, AA504679, AA578326, AW499708, BF678990, BF913236, AA749062, AA330576, AC060231.6, AC022027.5, AC023105.7, AL031005.1, AC007221.2, AP002852.3, AP000907.5, AC007541.9, AC020663.1, AC007263.4, AC027124.4, AC004217.1, AC008569.6, AL034379.8, AL022311.5, AF001551.1, AC011472.7, AC012512.7, AC009244.24, AL590763.1, AC018695.6, AL353804.22, AJ295844.1, Z79488.1, AC011114.5, AC011465.4, AC004159.1, AC004805.1, AL356805.5, AC017111.4, AL133477.16, AC005480.3, AL049871.4, AC002288.1, AP000338.2, AL354735.14, AL031120.1, AP000216.1, AC073316.6, AL031597.7,

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HNHNB29	232	895462	1 - 1880	15 - 1894	AL1049955, AA904211, AI921765, AU146342, R98218, BF725178, BF337320, AA515728, AL524675, BF772474, BG057207, BE675681, BE063437, BF804385, AI962030, R74433, BF724699, AV656063, AI499954, AI653776, AI523074, AI362442, AU118374, AW023302, AW957372, BE150793, AV763026, AV763058, BE281645, AW410354, AL038842, AW963444, AW403829, AA503298, AI709307, AW023111, AA825827, AV756491, AU158454, BF877926, AA713705, BG236484, AI735609, AW082104, AW780190, AV760014, AI254779, AA558404, AV719392, AA502532, AI114704, AA833875, AA833896, AA832145, AW957600, AA644090, BE072475, AW575605, AV703785, AW503420, AW973992, AI802087, BE301610, AW302017, AV738383, AW237905, AI859438, BF760573, AW962611, AV733437, BF944736, AV647070, AW513789, BG110818, AA581247, AI687343, BF854308, AW970958, AW615560, AI755057, AU157093, AI821987, BG222875, AA714110, AI732869, AA811741, AW849714, AL079734, AI889995, AA452887, AW978041, AV740009, AV764259, AA084609, H63660, AI587349, AW965008, AW190484, BE677244, AW501542, AW236219, BF217723, AA056248, AW843204, AV695478, AA633875, AW978591, AW192373, AW957154, AA604831, AW303872, AI141130, BF977305, AA297776, AI160786, AU151428, AU150634, AW083934, AA613624, AW051819, AI961983, BE968477, AW510513, AI417469, AC084881.19, Y10196.1, AL357515.26, AC005736.1, AL139396.17, AL356415.26, AC006241.1, AC006121.1, AL590763.1, AL022316.2, AL096677.21, AC016597.4, AF053356.1, AC002996.1, AL158040.13, AC012320.6, AC013434.8, AL109843.25, AC009194.8, AL356020.3, AC002425.1, AL133448.4, AC020916.7, AC005081.3, AL161731.20, AC078846.2, Z83819.1, AC011247.10, AL139317.5, AL022323.7, U95090.1, AC007225.2, AC083884.6, D86995.1, AC020913.6, AL356915.19, AL050349.27, AC023425.20, AC034242.5, AP001705.1, AC008946.6, Z95331.2, AP002008.5, Z98752.16, AC005920.1,

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HNHOD46	233	843488			



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HNHOG73	234	835026	1 - 788	15 - 802	AL079335.29, AC002299.1, AL035086.12, AC005368.1, AL357515.26, AF168787.1, AC074270.25, Z95152.1, AC002470.17, AP001752.1, AC005070.1, AC005332.1, AC005619.1, AC010458.5, AF196779.1, AC006285.11, AC010422.7, AC010463.6, AC004813.2, AC024561.4, AC007097.4, AC005280.3, AL096701.14, AC002985.1, AC007957.36, AL034379.8, AC004257.1, AL033529.25, AL359092.14, Z93023.1, AP001725.1, AL357560.11, AC022261.8, AL031681.16, AC025166.7, AC007999.12, AC005874.3, AF134471.1, AC016025.12, AC006254.10, AC004148.1, U95742.1, AC026464.6, AC011462.4, AC005821.1, AC003110.1, AC009756.9, AC011442.5, U78027.1, AC007619.22, AC010605.4, AL117344.12, AL121975.9, AL136300.22, AC006337.4, AL157838.24, AL158040.13, AC006970.6, AC007488.15, AC000026.3, AC008687.4, AC018720.5, Z84487.2, AL445222.9, AL132855.4, AC006480.3, AL031286.1, AC004906.3, AF196971.1, Z83843.1, AC003043. 1.
	235	1310821	1 - 1368	15 - 1382	AA584096, BF853760, AL137798.8, AL049569.13, AL137802. 7.
HNTB126	234	835026	1 - 788	15 - 802	AL528533, AL520935, AL521290, AL515806, AL520965, BE293492, AL520936, AL515807, AW972854, AV753139, BG178370, BF968317, AL520966, BE780476, BE305183, AI678037, AW293248, AL521291, AI269883, BF978348, AA894746, AI493776, AA778869, AI424848, AA525497, BF307374, AA622403, BG109953, N21347, AI095265, BF792489, AL519236, AA564674, BE249905, AI268502, AA995849, AA894745, AI249680, AW087844, AI300762, N72839, AI244187, AI089147, AI368934, AI740804, AI339842, AW516709, BF315359, AI335796, AW192649, AW801578, N28008, AI095231, BF977145, BF977663, BF765528, BE778762, BE875935, AI951011, BF669511, BG033337, AW393151, AL519237, AW819092, AW393138, BE868896, AV691113, BE875559, AV693124, BF976999, BF690855, AI127890, BE293585, AW984556, BF994881, AW090182, W76593, AA362394, AI906642, BE741647, T57136, AW753803, BF813621, AA533658, BF882501, AI638644, AI370623, AI698391, AA806720, T49776, AW008226, AI568293, AI332957, BE393784, AI590043, AI954721, AW128834, AI364167, AI419826, AW166870, AI884318, AI685005, AI473799, AI699823, AI440239, AI956080, AI393038, AI889189, AI621341, BG119543, AW166583, AW105296, AI580451, AI634345, BE966496, AI619820, AI570807, AW834282, AI499570, AI500113, AI620864, AI684369, AI633125, AW983832, AW103928, BF752997, BF727091, BF761618, AI254731, AW087934, AI802542, BE964556, AI927233, AI538564, AI270706, AW148882, AI915291, AW152182, N21402, AL046466, AA019328, BF811804, AI678446, AI473536, BF669151, AA102339, AW130362, AI653402, AI869765, AI270183, AI613038, BE965129, BG122005, AI950729, AI540821, AI700358, AI266652, AI701097, AW004606, AW198090, AW262552, AI934011, AI282669, AI349482, AI612913, AW084873, AI125015, BE963426, AI695857, AI636588, AI610446, AI572096, AI689157, AW075671, BF812960, BF996654, AI799183, AI687127, AI866419, AI824688, AI866040, AI824576, BE895003, AI683563, AW029489, AI540350, AI499890, BE963355, AI951950, BF724420, BG251076, AI421149, AI567513, AI866469, AI932966, AW129659, AI474146, AI298321, BE275487, AI816306, BE961919, AI539260, AW243451, AL080011, AA878142, AI567769, AV720998, AI524626, AI096481, AI470717, BF814527, AW102794, BE963310, AI478723, AI800341, AW089726, AI912434, AI648509,
	235	1310821	1 - 1368	15 - 1382	

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HNTBL27	236	545534	1 - 777	15 - 791	AW169270, BF475369, AL524823, BE903984, AL530691, BE536833, BG230736, BE881512, BF033804, AA716162, AW183635, AI188277, AI141766, AI624087, AW173452, AI129419, AI683124, BE903838, AI828817, AI308087, BE544869, BF061917, AW291854, BE880241, AW471490, AW615124, AA701470, BF447518, AW025680, BF094269, AW449210, AA315210, BG251005, AW504333, AI239598, BE697836, BE742666, AI284846, AI355748, BE899398, BG027544, BF352604, AW376334, AW376337, AW752527, AW194025, AI890712, AI565340, BC006846.1.
HNTCE26	237	1160395	1 - 2149	15 - 2163	BG252201, AV726464, AL529709, BE894106, AV726994, BF970560, BF132059, BF977798, AI703275, AW512938, BG164577, AL529708, AI767521, AI823746, BE220262, AA583438, AI143608, AW468337, AI949854, AV727138, AI620344, AI209187, AI630993, BG007081, AI004986, AI565892, AV715169, AI367983, BF056815, AW394003, R70620, BG007658, AA152183, BF381743, AA565300, AA088574, AA931697, AA995899, AI025252, AA297479, T84083, AW138535, H71679, Z45535, AA297478, AI865989, AA367654, AA150060, AA044326, AW338484, D29436, R24591, AI005551, H00983, H39751, AI669105, T83438, BF091777, AW138127, R21165, BF083909, BE934286, R76620, AA971307, AA745052, AW945769, AI554153, T84151, BE550213, H01724, AW051517, AW373316, AW373313, T89390, BF083903, BE541509, AA180271, AI263504, AF303588.1, AF140242.1, AL133390.7, AF056032.1.
HNTNI01	238	1352285	1 - 2073	15 - 2087	AA447485, AA196688, M86015, AI750365, R13985, BF356780, N28763, AC005028.1.
HODDF13	239	684307	1 - 816	15 - 830	AC011245.8.
HODDN92	240	422913	1 - 1925	15 - 1939	BG116781, BG110501, BE150456, AI742087, AA453725, AI917507, AW769479, AI860142, BE326465, AI459289, AI860141, AW963123, BE646467, AA868553, AW872412, AW971193, AW277065, AI921333, BF576826, AI024689, BE466760, AI354470, AI005467, AW103830, BE045272, AI827987, AA442638, BF109829, AA813604, N28268, AA442648, AA563934, N63406, AA833517, AA663108, AA437299, AA632986, AA436880, N58885, AA812876, AA447794, AA442379, N58892, AW020895, AA522837, AA600372, AA229448, T78981, AA663178, AV693238, AI187977, AV696576, AI472712, AA229164, T85178, AW270324, AV683374, R64648, AA333708, AA703066, AW961515, BE093710, T78927, R64655, BF802058, R59514, T84294, AA551512, AA460220, AI916737, R31132, AA359583, AI217018, N56349, AI191725, BE835233, BE835385, T84796,

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HODGE68	242	834907	1 - 837	15 - 851		AW812930, AI741403, AI193921, AA292663, AW812933, AV707090, BF892766, AA528261, AA513570, BE152032, AW812788, AL139296.4, AL355886.4, AL512449.6, AL360179.8, AC005284.1, AC011246.6, D84394.1, AC034245.4, AC012361.10, AL133373.5, AC027287.20, AL078634.24, AC012039.10, AB020863.1, AL158064.16, AL138758.7, AC034240.4, AL121575.24, AC016045.8, AL157819. 15.
HOEDB32	243	634994	1 - 1448	15 - 1462		BE728085, BF525463, AL043598, BE379024, BE729709, BE388931, BF058202, BE389160, BF219910, AA937045, BE888648, BF983683, BF058514, BE729777, BE386542, BE270287, BF220144, BF732488, BF205132, N37022, AI806995, BE302761, AI218926, AI040017, AV700992, BF204637, AW269653, AW664365, BF851636, AA558441, AI971923, BE389935, AI971822, AI984087, BF109553, BE149505, AI371806, BE466285, N63999, AI218921, BE896831, AW105333, AW264122, H97490, BF830445, AW410288, AW856197, AI041603, AW469216, N28797, BE379424, AW662759, AI218000, AI283819, AA789225, AA916425, W67366, AI354311, AW517796, AI343922, AA872912, BE207555, AW410287, AI751344, AI537028, AW379887, AI469495, N23215, AA305895, AV700226, AI399649, AW602751, AI857609, BF8332669, BF732356, AW960917, W67367, AI093054, AW132083, AA613324, AI220983, AW241183, AJ239424, AW876666, N32087, AI126987, AA722964, BF361409, AI312696, AI193728, H93764, W24695, H11009, AW876671, BF515670, AA166810, AI754948, AA166918, N93890, N93062, H92111, AI208255, AA994700, AA341436, AL043597, AI751345, T58592, R57961, BF929058, AI015141, AA375135, C01839, H14764, AW889983, DI2283, BF755440, H06898, AI868297, AA594530, AA303707, AA535409, AA373071, AA885934, AA359174, AI280938, D83887, AW889975, N88528, BE673462, AA341295, BF088497, AA090557, H06857, BF512261, BC000526.1, AL117619.1, AF132000.1, AC003687.1, AL049873.3, AL450324. 10.
HOFMQ33	244	1184465	1 - 2396	15 - 2410		AL528504, AU121718, AI820674, T94707, AJ224741.1, Y13341.1, AC079145.3, AJ001047. 1.
HOFMT75	245	911180	1 - 2117	15 - 2131		AL532142, BG260401, BF688316, BF796465, BE907259, BE878185, BF311180, BF182869, BF793219, BF528084, BG164901, BF025894, BF343463, BF027348, BE615276, BF339485, BG251657, BF340866, BE869513, BG168879, BF312304, BF344218, BG035574, BE909308, BF317451, BF346215, BF569244, BF569508, BF341893, BG164819, BG251015, BE876727, BE314260, AU119847, AW732268, AV691326, BF346288, BE907910, BE792057, BF314016, BE386414, BE787546, BF337708, BE384083, BF032872, BF308223, BF982476, BF313919, BF967499, BE272948, BE878890, BE272586, BE878055, BF853224, BE386215, BG035861, BF686718, BF569555, BE907675, AL036113, BE262510, BE261041, BG114738, BF315298, AU141949, BG171668, BE3833392, BE906327, BF316184, BF846927, BE871813, BE780677, BE266551, BF316458, BE793972, BE870259, AI869324, BG171700, BG251535, BE302664, BE261412, BE905686, BF314291, BF528326, BE018644, BF846926, BF338012, BF344721, BE170034, BE797588, BF725914, BF313723, BE295702, BE539065,

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HOFNY91	246	847425	1 - 2392	15 - 2406	AL529530, BE896219, BE905006, BF701370, AV726968, BF697098, D56471, AA398982, D54791, AW952054, D54998, AA137223, D52957, AL529529, BF667411, AV722244, BE539516, AW603940, BG252620, R33682, D53702, AL537902, BG171582, AW752566, BE874188, R79409, BE891332, BE888598, BG180774, AA702285, D52438, AA306169, F00618, M78614, AW965817, BF515338, BF091420, AW847750, AA307191, AA446770, BE785930, AW157201, AW801965, BF031768, T31797, BF031629, AA658190, D52945, BE565940, AA157919, AA136378, AA150656, AW162647, AA282187, AI684319, BE540207, BF028795, H22397, AW847690, AW293605, AI457838, AA938423, T36093, BE878093, T30493, BG251689, BF341242, AW847685, BG169305, BF115649, BG166888, AV727838, BE739764, BF207904, BE738987, AV725549, AV726582, BE865924, BE866601, BE811512, BF028097, BF028440, AA155611, BF030153, AW070701, AA357234, D55509, BF028402, BF208666, BG054885, BF947687, AW997229, BE699329, BG164817, AV727582, AW750879, BG258115, BF446900, BG151519, BF001920, AW300512, AA639868, AA256021, W23904, BE866188, AI925691, R56031, AW379828, H08997, AI904379, AI632020, AW029553, AI950933, BG104880, AA828915, AI904416, AI986473, BF131266, BF588526, BF433181, AI125136, BF476107, AW770808, AA399621, AW801803, AI978599, AI700677, BE184726, BE184725, R35739, N52155, AB024334.1, AK024230.1, AC006388. 3.
HOFOC73	247	931871	1 - 1477	15 - 1491	BF195687, AI762843, BF435173, AW167715, BE675436, AI829951, BF195590, AW517368, AI831464, BF110813, BF939079, AW573230, BE747230, AI760936, BF348602, AA418800, AI870845, AI420441, AI377190, BF196297, N32270, AI813507, AI313119, AI472198, AI340272, AA502942, AI363372, AI806717, AI479956, AA861188, AI073435, AI128897, AI799480, N35138, AA832426, AW753935, AA421515, AW362239, AA258517, AI907351, AA789084, BF924856, H42825, F35882, BF814541, AW409775, AW265004, AA830821, AW089179, AL133741, AA835966, BG029053, BE781369, AI696969, AI565172, AW089006, BE965169, BF527012, AA807088, BE048071, AI567637, AW088899, AI571868, BF725863, BF970263, AI244380, AL119791, BG058039, AW020419, BE964497, AW999906, BE785868, AI400725, AL046463, AI874166, AI922577, AI874151, AW081034, AI620093, AI282903, AI280661, AW193203, AA603709, AI570966, BG260144, BE061389, AI537617, AI919345, BG027628, AW130863, BF915537, AW834355, BF815196,

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HOGAW62	248	579891	1 - 557	15 - 571		BF673679, BF340318, BF681126, AW630816, AW630056, BF684524, AI471808, D31084, BE932204, BE778532, AI365605.
HOHCH55	249	827481	1 - 2485	15 - 2499		AW967050, BF793252, AA150407, AI889756, AW068908, AI539422, AI189000, AA149419, AA047109, AW304902, AI750990, AI123024, AA317245, AI752854, AI095919, AI984090, AI679980, AI954496, AA047265, BF749346, AW068311, AA136657, AA417383, AA446268, BE763257, AA136596, AA852682, BG222753, AA150286, AA417352, N52533, N52541, AA149305, AI129506, AA723730, BF987955, C01867, AA445992, BF928215, AF072752.I, AB008375.I, AL160153.II, AL355807.II, AL139800.I0, AL359052. I.
HOQB182	250	1352356	1 - 3516	15 - 3530		BE904978, BE383830, BE890564, BE729647, BE732309, BE789481, BE886173, BE733387, BE386405, BG258301, BE383286, BF125887, BE777790, BE280391, BE515074, AI459129, BE281548, BE644930, AI660728, BE894488, AW749978, AW169336, AW370341, AA719364, AW452738, BG256682, BF439379, AI361918, AW188152, AI690424, AI810025, AA281766, BE890960, AI150426, AI587146, AA630686, AI160979, AI741787, AA634292, AW264224, AA824631, BE207252, AW900280, AI689370, AA233695, BF125572, AA351589, AA769227, AI351341, AW029513, R41719, AI985709, AA634567, AW269038, AA351643, AW674550, R36553, H23984, H22704, AI819095, AA984407, AA355743, AW408651, AA973659, AI538888, T58501, AW661810, AA649086, AI933293, AI673569, BG057154, AI364341, R32827, AA973736, AW273585, AI497846, BF755875, BF927524, AW615711, AA356192, BF963119, BE501436, AA937403, R17171, AA353188, AA922835, AA026761, T99539, R27062, AA280121, H63038, R32930, AI537859, AI796641, BF927128, AI250269, D81030, AA693444, R27063, AV723591, R06448, AW375956, N56014, AA126901, AI276126, AI963082, BG222601, AW964936, BF345885, BF448000, BG002228, AA806733, AW802995, BF346206, AW410405, BF307973, BF755869, T58551, AA905213, BF346212, AI305226.I, AI305227.I, AL136564.I, AL035681. I3.
HOSBY40	251	589431	1 - 1131	15 - 1145		BE465874, BE465890, AW418562, AW814995, AA721114, AC002543. I.
HOSDI25	252	854234	1 - 2200	15 - 2214		AL521533, BF966564, BG109192, BE621548, BG259805, BF666690, BF667661, BF185318, BF666019, BE621125, AI433432, AW963800, BE883279, BF028488, BF667980, BF196902, BF111775, BF667265, BF664922, BF966437, BF667218, AI277896, BF028500, AI401346, BF696865, BF698781, BG169528, BF696312, AW338135, AI280253, AA873621, AI435513, BE552077, BF699387, BF055949, BF697521, BE542555, AI277959, AA121788, AI961880, AW969937, BF478121, AW338124, AA528626, AW367010, R76478, AA101422, T62844, AI918990, BE167397, W72961, AA876737, R28131, BE176581, AA375127, BF332407, AI365181, W73131, T62693, W21429, N92911, BF570557, AI077290, AA127501, R66340, AI926197, C00153, AA813575, R28517, AI580500, AI222072, AI033269, AA758476, W86851, AV661704, AV725920, AV728997, AV704234, AV726624, AV655280, AV729378, AV708992, AV727787, AV709407, AV654908, AV660608, AV652001,



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HPDDC77	254	1306899	1 - 964	15 - 978		BF337609, AV745285, W56118, AA411082, BF031537, AA250775, BE813320, AA862532, AA862534, BF669016, AA505270, BF130828, T32131, AA372427, BF696363, BF028658, AW518578, BF030194, BF131517, BE179443, BF030661, AW630420, AW900594, A1267426, BF381745, AA236139, AA318983, AA164404, AL534009, AL047026, BF095360, T07060, AW891586, BF541413, BG168343, BF928857, R79561, BE380028, R33720, C01622, Z24914, AV746413, AV752615, BE708396, BF910231, BE925952, BF540973, R36171, D54233, AW818345, AB037797.1, AK025028.1, AK026917.1, AF250324.1, AC079801. 2.
HPEAD79	255	520202	1 - 799	15 - 813		AC004590.1, AC069275.3, AL117382.28, AC002094.1, AP002852.3, AC009955.4, AC055740.17, AC011470.5, AC004965.2, AF109907.1, AC078846.2, AL109804.41, AC008745.6, AL121653.2, AC018832.4, AC018738.4, AC009502.4, AL136137.15, AC016543.6, AL121579.4, AL161670.4, AL353679.18, AL096701.14, AC025097.41, AC011449.6, AC006345.4, AC007637.9, AC003029.2, AL050341.18, AL353135.32, AC008403.6, AL365499.19, AC008764.7, AC023472.4, AC006449.19, AL513008.14, AC012306.11, AC005632.2, AC005041.2, AJ011930.1, AL163300.2, AL034405.16, AL109865.36, AC074121.16, AC090051.8, AC004962.1, AL096814.26, AC007666.12, AL161911.17, AF053356.1, AL109897. 30.
HPFCL43	256	535710	1 - 651	15 - 665		BF976224, AV729127, AA837404, AV729103, BG055177, AW169122, A1796276, AA603456, AV729600, BF447152, BF059491, AW196971, A1566470, A1636657, AA279066, AA845528, BE219765, AV725215, AV725488, AA046476, A1025283, BF663369, BE379318, AA936074, AA031332, BF003040, BE467269, BE270829, BG060181, AA568448, AV727986, BE271012, A1351514, AW470751, AA878870, AA026888, BE879122, AA015966, AA632383, A1090910, H20001, AA150301, AV725538, AW236006, AA625391, AV704013, BE737339, A1358381, A1476276, A1718051, AV728067, BE561457, AL048514, BF105823, AV756946, AV758524, BF576620, AA455061, AW955472, A1337508, AA026657, A1468881, A1559878, AA090696, AA455761, BF132919, BF790637, AW062362, AW149768, AA743298, AA447922, AA031331, BE839021, BG104864, AA446847, AA148792, AV702908, AV712537, A1370062, BC007349.1, AF151895.1, AF110777.1, AC007241.3, AC007742. 4.
HPIBO15	257	1310868	1 - 1725	15 - 1739		A1056404, A1802391, AW270724, A1750249, N41425, N47678, A1188511, A1376981, AA029314, AW452123, BE466507, N39755, A1937190, AA063620, AA693737, A1139466, AA701241, A1250789,

HPICB53	258	1042309				<p> A1672263, A1198257, BF055537, A1199035, AA677064, W69895, AA040154, BF196981, W73711, AA029867, W69841, BF222273, AW900121, AW022270, W69574, A1373227, A1200161, AA701858, AV690112, AW044223, W69662, A1052153, AA872860, H29417, H29324, N26312, A1283749, AA036704, A1383659, AA332627, N47677, A1424682, BE089934, AA329748, AW952484.  A1284640, AL079734, A1345695, AA410788, AA128592, AV760508, AA449997, AU147162, AV756491, AW302315, A1801482, AW265385, AW021583, AW265393, A1733856, AA521323, AW963117, AW327624, AV763026, AV763058, A150796, BG059568, AV759204, AV760915, BF827410, BE147833, BE062478, AW969941, AW062724, AA634786, BE063437, AA521399, AV764259, AV763971, AW270258, A1491765, AA666332, AW302909, AW504485, AW974932, A1908093, A1753488, BG236735, AW963463, BF681619, AA581903, BE139267, AL120343, BF804385, BE062476, A1669589, AW402458, AW189068, BG236628, AV759632, AA584489, BF989483, A1610468, A1244127, AW467323, AW271904, AW630298, BE872393, AV759274, AW805539, BE393367, AW189113, BE139358, AW970877, A1732483, A1754037, AW845366, AA468022, A1251576, BF030641, AV761519, AA643770, AW237905, AA284247, AW084445, AW148507, AW439558, A1612142, A1358384, A1471691, AU118374, AL040054, BF750422, BF761328, AW020992, AA469327, AU147922, AA469451, AA704393, AL037910, BF736198, AW503900, AV758903, AV703785, AL038936, BF944940, AL048616, AA483256, AW021917, AV762395, AW062682, BF965775, AV713243, AA916430, AA857296, BG029528, BG009317, A1708009, AV762982, AW268232, A1306232, AA661948, AV744179, BE062545, AA515048, A1583466, D83989.1, AF077058.1, X75335.1, X55926.1, X55931.1, AC018690.5, U18398.1, AP001208.3, AC005399.19, AL096755.1, AC018494.6, U02531.1, AP001330.3, AJ003147.1, AL121586.31, AL137792.11, AP000251.1, AC018511.4, AL356915.19, AL133347.28, AF091512.1, AL160163.24, AC002316.1, AL022336.1, AP000212.1, AC011471.6, AC018695.6, AP001711.1, AC006487.8, AP000030.1, AP000134.1, AC005037.2, AF288742.1, AC005342.1, AL050318.13, X76070.1, AC011462.4, AC004126.1, AC006435.7, AC074331.1, AC005089.2, AL162718.15, AC072052.6, Z96568.1, AC007272.3, AL033529.25, AL163636.6, AC009228.4, AC005520.2, AP001760.1, AC006333.3, AL096817.12, AC005519.3, AC005215.1, AP000557.2, AC005207.1, AC005102.1, AC005088.2, AC006077.1, AC004531.1, AL353140.12, AC009068.10, AC087225.1, AC004841.2, AC004583.1, AC009131.6, AC002996.1, AC002301.1, AL022323.7, AF205588.1, AC007957.36, AL449212.1, AC019206.4, AC010913.9, AL109797.18, AL078621.19, AL034417.14, M87898.1, AF317635.1, AL157823.9, AP001759.1, AL031658.11, AC002036.1, AL035555.10, AC068319.4, Z93023.1, AC007383.4, AL136979.16, AP000501.1, AL138499.4, AC000073.1, AC024576.5, AP001753.1, AC010422.7, AB001523.1, AP001717.1, Z85987.13, AC005593.1, AC006509.15, AL122004.17, U73023.1, AL031681.16, AL157372.18, AL158830.17, AC007308.13, AL139378.15, AC026185.3, AC007546.5, AC005740.1, AL138692.26, AC007421.12, AC006992.2, AL356532.9, AL137784.14, AL034420.16, AL445664.14, AC005522.2, AP000556.2, AC010363.6, AC007707.13, </p>
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					1 - 1125	

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HPJBI33	259	685699	1 - 1663	15 - 1677	AI679782, BE796439, AV763892, BE387734, AW303196, AW301350, AW274349, AL046409, AI204304, AU148742, AL048142, F36273, BF475381, BE156019, AL041690, BE872393, N94311, BG236735, AA599480, AW630298, AW473163, AI754955, BF683672, AI281881, AW276827, AI341548, BF806176, AW467362, BF805094, BF940837, AV762050, BE350475, AA631507, AV652936, AW963497, BF965007, AV681599, BE042649, AV762139, AW080939, AW276435, AI291268, AI291124, AW339568, AU154961, AA426277, AI133164, AW088616, AI951863, AW873530, BF816072, AL038785, AW148792, AW338086, BE869857, AW408717, BE042475, AI580652, AA525190, AL044940, AV760466, AV713243, AW969694, AI537955, AC005527.3, AL050318.13, AC010279.4, AC000025.2, AF134726.1, AC008736.6, AC004983.2, AC004965.2, AL162458.10, AC009269.6, AC020552.4, U91321.1, AL136179.15, AC011455.6, AC020916.7, AC084783.2, AC009244.24, AL133332.12, AC009144.5, AC005755.1, AC013449.8, U95740.1, AC010319.7, AP001725.1, AC008068.4, AC011497.6, AL021546.1, AL121586.31, AC004971.3, AL021391.2, AC007055.3, AC011464.5, AC010422.7, AC006430.22, AL390738.4, AL109805.14, AC006483.3, AL033528.19, AP001716.1, AF053356.1, AP000112.1, AL160271.19, AL157882.5, AL022323.7, AC018751.30, AL121900.26, AL356354.10, AL121897.32, AC006435.7, AL160471.5, AC027689.10, AC004878.2, AL121903.13, AL121890.34, AP000044.1, AP000513.1, AC004662.1, AC027319.5, AC011236.8, AC008738.6, AL136980.5, AC020904.6, AL132640.4, AC009516.19, AC018506.4, AJ400877.1, AC003003.1, AC016587.7, AC004847.3, AC012476.8, AP000555.1, AC020931.5, AC018719.4, AC003029.2, Z93241.11, AC004797.1, AL031281.6, AP001741.1, AC016894.7, AL033529.25, AC068533.7, AC011479.6, AJ003147.1, AL163248.2, AC022148.5, AP001727.1, AL031602.14, AC008403.6, AL139021.6, AC005488.2, AC006329.5, AC0079602.15, AC020754.4, AC005736.1, AC004841.2, AL022316.2, AC003684.1, U47924.1, AL031733.3, AL365225.12, AL356915.19, AC008622.5,

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HPJBK12	260	1011467	1 - 2634	15 - 2648	AP001206.3, AP001329. 3.
HPMDK28	261	846357	1 - 1070	15 - 1084	BG112660, BG025264, AL528310, BG168817, BE744551, BE877617, AI356771, BG163540, AA203523, BG031683, BF822950, AW592567, AA176981, AA904437, BF209639, BF312400, AU134583, BF194783, BF058517, BF445932, BF115227, BF732680, BF445936, AW303381, AW149649, AW027536, AW583459, AW475091, AA065227, BF869433, AW103970, AA703536, AA902103, AI735312, AI082224, BE262098, AW405660, AW009422, AA932869, BF940753, AI830877, AI830074, BG222176, AI742006, AI381584, AI133474, AI347025, BF869417, AI452483, AA993536, AW954279, BE737248, N66683, BE261151, AI369439, AI334008, AI005081, AI528309, BE166345, AA365303, BF222033, F32952, AI697441, AA488152, AI418548, BG248769, AI279351, AI888277, BF115544, AI200343, AA977299, AI612818, BE163359, AI830668, BE740423, AW574601, AA315546, BE397815, AA573402, BE004351, AA573411, AA633508, BF925742, AA741489, H82686, BF894571, AA065233, AA360707, AV728079, BG230581, N29979, BE561199, N98991, AW439071, AA744699, R73710, AW407745, AA877633, H99709, BF804312, AI381618, BF806994, BF806622, BF806680, BF807000, BF807012, AW407070, BF804328, BF807005, AU155517, AA933001, AA321772, W57549, BF806996, BE271504, H39645, H26855, BF807004, H82425, BF804308,

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HPMP40	262	638165	1 - 1203	15 - 1217	
HPRAL78	263	1352342	1 - 2058	15 - 2072	BF342508, BE745079, BF316647, AW954022, BF219864, BF220093, BF182978, BG108443, BE879671, AI684112, BE840525, AW957217, BE840530, AI148569, AI128199, AL041807, BF027688, AA401860, BF915566, BF914452, AA938143, AA588312, AI991034, AI672251, AI862148, AI333529, AI798586, AI095534, BF826436, AA976203, AA424398, AI475525, AL039685, T52017, AI055912, R51437, AW071787, AI598282, AA578538, AA554343, AI140222, AW268634, AI300146, AA340540, AA411182, C04045, AI926947, AW088744, AA757547, AI798454, AW473352, AV691484, AI076726, AV647523, AW475065, AA364829, AW028194, AW249610, W22554, H66782, AA081290, N95459, W25198, R60726, AI311111, AI351724, AW614976, AA506965, AI142999, BF091172, AA604134, T63960, BE840632, AI583100, AI351726, AW009121, AA081115, AA081697, AA411256, BF679941, R60727, AA578520, AW129067, AA612772, AI824391, AA470674, H66783, AW953382, AW006565, N34727, AW160746, AA832062, R36715, R90863, R84524, BF924179, H12158, AW770335, AA315553, AA702770, AW246146, AA370468, AA832305, AW082570, AI568825, BF929006, AA251006, AA043375, AA508725, AW068182, AA766464, BF769780, AW316684, BE260322, BE819573, AA082047, AA370467, BF929011, BG056952, AW241232, BF751574, AI686507, AL050275.1, BC008720.1, AC022007.3, AC018809. 4.
HPRBC80	264	829136	1 - 2529	15 - 2543	BF508706, BG251902, BG118348, AL522364, AI690187, AW959485, AV705315, BF672789, AL520227, BG176557, AL528876, AV713609, BE439925, BF130665, AW963928, BF994344, AL536566, AA446397, AA180531, BG026529, AA180520, BF672895, BF029282, BF670440, BF799935, BF510400, AA179618, AL513906, BE246173, AA625572, BE244085, BF671786, AI681635, BE004437, AA431963, AV701964, BE566300, AV653358, BE004444, BF790083, Z30124, AA164383, C17250, AA379401, N24451, AA363823, BE004648, AA180509, AV713647, T35331, AW961450, BF800059, AV686722, BF575322, AW020971, BF229438, AW361378, AA465249, AA313690, BF979498, BE694196, AW999825, T35345, AA625571, BE925937, T30431, AA135096,

					BE172414, BF980120, N54675, AW897938, BF210564, AW665936, AA769851, Z20951, AW242738, Z19798, C16481, AW197150, A1567621, BE222028, BE622950, AW883664, AA885770, A1039327, AA628005, N50019, A1650889, AJ271835.1, AF136972.1, AC013717.8, AJ271832.1, AF294792.1, AJ005801.1.
HPTTG19	265	635033	1 - 545	15 - 559	AA968657, AA493232, AW964196, AW945159, AW950095, AW963925, AW949384, AW951182, AW952751, AW949383, AW962651, AW963933, AW964422, AW958763, AW956474, AW960718, AW964284, AW967195, AW960207, AW954032, AW957083, AW959366, AW949682, AW962713, AW958568, AW958569, AW949767, AW951201, AW963026, AW949757, AW957085, AW949750, AW953772, AW954070, AW960237, AW957062, AW949697, AW967372, AW955902, AW958365, AW950217, AW954506, AW966270, AW964223, AW958756, AW955977, AW955982, AW951187, AW949856, AW951437, AW953773, AW962636, AW952126, AW957059, AW964421, AW954068, AW949551, AW949863, AW962650, AW950219, AW961026, AW963025, AW964203, AW949552, AW957068, AW958225, AW960720, AW951452, AW966421, AW962648, AW964012, AW958740, AW959899, AW955892, AW959356, AW949761, AW949762, AW964198, AW951430, AW963027, AW964420, AW963915, AW953657, AW955900, AW945197, AW965978, AW956278, AW951409, AW952743, AW951624, AW951197, AW949764, AW957061, AW964224, AW949850, AW962649, AW962644, AW964423, AW953769, AW965895, AW949759, AW963931, AW963940, AW96741, AW953807, AW945155, AV707067, AV707786, AV702794, AV705836, AW961247, AV707234, AV727499, AW955724, AW965899, AW956626, AW965869, AV704974, AW965866, AW957677, AW961052, AV702716, AV725181, AW951184, AV709772, AV705660, AW965033, AW963011, AV703239, AV702990, AV661286, AW950678, AW963962, AW961400, AW963598, AV704490, AW959270, AW956792, AW952418, AW950240, AW966389, D50992, AV705590, AV704497, AV706871, AV704891, AW963631, AV688823, AV701911, AV693604, AV705273, AV695888, AV727353, AV707576, AV703275, AW964074, AV705282, AW967052, AW951738, AV703453, AV707368, AW954228, AV709635, AV687035, AV708304, AV701769, AW961255, AW960629, AV702964, AV707331, AV707197, AW949517, AV703742, AV705710, AV701667, AV726551, AV652860, AW953804, AW957674, AV709248, AW951768, AV728539, AW953797, AV728953, AV649758, AW954697, AW963405, AV704785, AV705453, AV708872, AV727314, AV654686, AW963087, AV706876, AV703457, AV706453, AV709527, AW950520, AV701730, AV705909, AV728282, AV707059, AV702637, AV703591, AV704124, AV702306, AW962983, AV705757, AW951773, AW959804, AV728999, AV709596, AW950671, AV729532, AV708610, AW963700, AV706579, AV707909, AW950006, AV707238, AV709725, AW964490, AV706910, AV729198, AW961313, AW956618, AW956619, AW956624, AW958455, AW955710, AW964429, AW950778, AV726337, AV703553, AV704376, AV656478, AW959846, AW958161, AW952328, U73636.1, U94592.1, Z30183.1, U45328.1, AB005666.1, Z79435.1.
HPZAB47	266	585702	1 - 1662	15 - 1676	AW993896, AA493291, AA526359, AW972615, A1720194, AA358397, AW204400, AA508549.
HRAAB15	267	658717	1 - 1733	15 - 1747	BG111918, A1823987, A1807761, A165961, A1418806, A1738753, C05983, BG152897, A1439250,

HRABA80	268	882176	1 - 1237	15 - 1251	BF327504, AA923586, AI424510, BE003132, BF894183. AU147250, F24079, AI791459, AI732503, AA523577, AU121439, BF309840, BF308519, AI659402, AA719317, AA602233, AI752815, AW967109, AV694013, AA470486, AI218622, AA644545, AK022184.1, AC005777.1, AL031431.8, AC007406.1, AC032011.14, AC004143.1, AC006131.1, AC074121.16, AC005760.1, AC005529.7, AL354766.17, AC025166.7, AC012476.8, AC005544.1, AL035079.14, AL356299.16, AL031297.4, AC005778.1, AC011666.28.
HRACD15	269	871221	1 - 1525	15 - 1539	AL519765, AL519766, BE910445, BF684654, BE270497, BE513843, BF975936, BE396890, BF973472, BE515166, BF686665, BE744708, BG257119, BE880162, BE797305, AW248552, BE514176, BE793786, BE791776, BE296702, BE271500, BE268991, AW512838, BE791090, BE727326, BF026627, BE797018, BE275277, BE277906, AU133849, AW248687, AU120611, BE270509, BF027092, BE384166, AI565668, BE513807, AW405789, AU151587, AA261853, AW043669, BE729554, AI949119, AW575486, AW751019, AI524253, BE391940, AW245114, AU145208, BE312276, BE796133, BE561087, AI953094, BE390017, AA283855, BE265439, BE391036, BE391843, AI620547, AW402545, AI075157, AI744741, BF125945, BF941740, W60104, BE266246, AW085553, AW131075, AI768378, AA401964, BE390215, AI752668, BE736619, AW967867, AI565659, BE387591, BE222775, AA283856, AW750999, AA261854, AI498229, AA830894, W60024, AA496293, AI660481, BE960924, BE277521, AA994223, AA868400, BF026241, BE382766, AI801124, BE671092, AI264882, AI355420, AW248994, BE503489, AI262893, AA583344, BE266582, AI832018, N29665, AA622755, AI439625, AI193362, BF446254, BE504260, BE387503, AW806699, AU146635, BE856089, AI087826, BF801189, AA133817, AA843858, AI287716, AA928793, AA699788, AI027345, BE728607, AW629986, W52804, T10369, AW103963, AA933691, BE138812, AI284845, AW264928, AW152071, AI265798, AI809041, AI038469, AW246086, AI435409, AV691151, AW957437, AI620834, AI452870, AI860541, AI475835, AI418409, AI744163, AW002187, AV692842, AI521647, AA845397, AI744800, AW002140, AI309558, AU118709, W96176, AW768771, BE207457, AW236670, AW264115, D29066, AA026580, AA135589, H55790, AW732194, BG006063, AI024919, AA256768, AI214884, AA280734, AA565467, R87509, BF056311, AA643222, AI024305, BF204467, AA077296, BF310268, W07856, T30234, R48997, AI435115, AI567828, AI537884, AW050631, AI740587, BE162565, BE149783, AW090152, T10368, AW627586, AI537596, AA622914, T50404, AW016161, W45022, AI274609, AA570075, AL039562, AA827726, AW246353, W04715, H89133, BF125722, AA626654, AW246566, AW519242, AI659744, AI752669, AW247535, AA077415, AW129363, AI202252, AA628809, BE869982, AI208476, BE206952, AW511835, AA037397, BF828156, BG031018, BE513491, BE736901, AW149144, AI189756, AA078651, BE513973, BF194732, H47888, AW954928, AA806404, AW080710, BF847605, AA077110, AA319080, AA101354, AI214676, AA434187, AA932091, BF837875, BE140453, AA428843, R11194, AA778244, AA077601, AW082443, N90686, AI675644, BF794477, W05073, AI520907, AL046053, AW298462, AA496322, T50535, BC008084.1, AK001129.1, AK021688.1, BC007488.1,



HRACJ35	270	877666	1 - 2063	15 - 2077	AL117583.1, AC006014.2, AB014518.1, AC005488.2, Y16704.1, N54250, N81046, AA036807, AA135546, AA236044, AA262692, AA938381, AA204918, AA402082, AA455506, AA455507, AI217271.
					BE906771, BE218907, AI912661, BE670671, BG166321, AW167740, AI698131, AI796048, BF476110, AW952474, AW474992, AW149683, AI814137, BF436724, AA452391, AI635719, AI422285, AI675301, AW301634, AI800309, AI023300, AI269915, AA054467, BF062213, AI220479, AA991181, AI159765, W88683, AI623293, AI205308, AA043330, AA461136, BE669608, AI032982, AA634903, AI361429, AA877688, BF681677, W868366, AI683625, AI094869, AI268543, AI040482, AA460833, AI042583, AI800329, H40189, AA041196, AI420048, AI127006, AI023081, AA045134, T96696, M79132, W23483, BF000996, AI161385, BF476853, AI521085, AI984382, AA492294, AA016124, N95081, R13864, AI146307, W28330, AI022619, T19296, AA410735, BF573582, BF056915, T30952, AI971069, AA043329, AA126627, AA215786, R07660, BE833878, BE833866, AA329616, BE833882, BE833868, AA977851, Z41866, AA226105, AA126801, AA056673, AV693019, AA216384, R18560, AA041433, AW244035, R05716, AA868767, BF222351, H40140, AW589719, AV686312, BF207973, AA226035, AA228673, AI817777, AI420271, AV747189, AI248289, R05717, T30818, BF847400, Z38161, AA879250, D57208, R37006, AA319785, AI699205, T96591, AW945698, AA225132, AA333327, AA045610, D57177, AA226695, AA045355, BE905736, BE670421, AW469919, BF000980, AW771589, BF871391, F19153, AW152062, AW964837, R41427, BE242459, BF445505, AW373047, AW069103, W88670, AA761464, BF844537, AF107834.1, AF119386.1, AP003117.2, AF107833.1, AP003111.1, AP003112.1, AP003477.2.
HRDFD27	271	567004	1 - 791	15 - 805	W85784, AI254961, AA767643, BG164474, AA428410, BG007947, AI625142, AI111171, AC005274.1, AC004491.1, Z68192.1, AL365225.12, AL033529.25, AC009086.5, AC008569.6, AC002420.1, AC022392.4, AC012170.6, AC008474.7, AL157912.5, AC004966.2, AC002551.1, AL035695.17, AC005184.1, AC002115.1, AC027319.5, AC020610.6, AL121777.39, AC024568.4, AC009412.6, AC090955.2, AL133453.3, AP003352.2, AL163248.2, AL118520.26, AF260011.2, AC005940.3, U95742.1, AL022396.1, AC005362.1, AC004841.2, AC007676.19, AC024578.3.
HRGBL78	272	910133	1 - 2094	15 - 2108	BE271199, AW575245, BF794609, BF797900, BE559773, BE384088, BE513826, BE270971, BF572042, BE560978, BF690655, BE674800, BE275832, BF303959, AW205367, AW402801, BF203242, AW402242, AW402928, BF305905, BE466652, BE892536, AW403946, N24246, AW968460, AI654541, N28316, BF572179, N29315, N38941, AW383418, AA458944, AI276242, BE729612, AA215300, N33010, AW383426, AW383396, N20230, BF692515, AI439520, N29316, AA459158, N25452, W03476, AW383428, AW402824, N30453, N28949, N21241, AI760983, N20533, AI434284, BG025865, N72999, N20563, BF896859, AW403434, N67502, AI470743, N73074, AA837208, AW407871, H84381, AW404443, N26470, W02963, AI864746, N46511, W02298, H98912, H84382, N35519, H99497, BF890914, AA761778, N71796, AI222330, BC006521.1, AL359541.11.
HROAJ03	273	567005	1 - 1168	15 - 1182	AW959762, AW015128, AW753637, AV711012, AA296493, BE151396, AV655181, AI220561,

HROAJ39	274	1181699	1 - 1132	15 - 1146	BE006108, AA311800, AW962850, AW516636, BF881635, T66247, BE081925, R34513, F12057, AA852760, AA125904, BF996914, BF107281, BF743278, BF742834, AB040901. 1.
HROBD68	275	827306	1 - 1984	15 - 1998	AI921101, AW102963, C17730, AW139132, AI499286, AU157470, AW157413, AW517766, AI285660, AL038713, AU146974, AA779937, AW272376, AI862212, AI246569, W58428, AU145383, AI051341, AI925647, AI869945, N77920, AI591332, AI440018, AU148220, AI872191, AV695638, T06365, AI310239, AI559442, AI818151, AA811111, AI453790, AA130476, F16040, AI685116, AI610326, BE646447, AA166854, AI540098, AI375417, AI887321, AA767353, AV693309, N20521, AI369914, AA846188, H96719, AA961590, AI088245, AA902828, BF112065, AA129986, AI439415, N30146, AI817158, N33132, N31608, AW084901, AA055654, BE245707, AI619818, AI628308, N20064, AV726924, AA347740, AA932087, AA657353, AA550798, AI028382, AW262471, AI147839, AA132716, AA460715, AI250812, H97388, BG027070, AW072619, BF002501, AI568919, Z36956, AI538654, N90055, AI376849, AI952804, AI264673, AA468571, AA584498, H04879, AA342051, AI733728, BF963854, AW962610, AA099788, AI858607, AI189033, AA157033, AI675848, AA722562, AA659014, AW468555, AA862135, AA911409, AA226507, AI244642, N24958, AW085676, AA169142, AA364962, AA569918, BF221900, AU156129, AV702748, AA016272, AI601265, AW272291, AI082077, AI376984, AI377100, AA864823, W16525, N26697, AI110383, AW088343, BE264670, T48029, T69889, AA724610, W96522, AA826143, AW753399, AI827133, AI783731, AI598077, AA565911, AI523955, BE677100, BF772474, AV695478, BF576607, AU143935, AL521095, H20876, W31567, BF805088, R70883, AA136630, H01156, AI521525, AA503213, H68343, BG152386, AI890971, AC009623.6, AC008173.2, AC084881.19, AL161901.18, AC020892.7, AC020603.4, AC024341.9, AJ271735.1, AC002486.1, AC013719.8, AL109847.5, AL138965.10, AL137011.9, AL356962.8, Z99758.7, AC005798.10, AL163202.2, AC073200.6, AC004894.1, AL451083.5, AC004087.1, AC025040.7, AC015987.5, AL163152.4, AL353772.14, AL590043.7, AC002527.1, AC009483.3, AB045357.1, AC005885.1, AL360089.13, AC067941.7, AL163203.2, AL162500.15, AP002532.1, AL355581.14, AC006334.3, AL445383.5, AB000882.1, AC021017.4, AP003493.1, AC073964.3, AL139109.14, AC010252.3, AC009802.13, AC023842.5, AP002797.3, AC008109.6, AL050309.4, AL353650.5, AL442183.4, AC006043.1, AC010719.4, AF224669.1, AC012558.8, AL022153.1, AL121578.1, AC010747.10, AC003091.1, AP001691.1, AL049732.11, AL583822.6, AC073137.7, AC003051.1, AC009120.8, AC007102.4, AL512427.10, AC018616.5, AP000949.2, AC018468.4, AL355888.3, AL050329.12, AL035466.3, AL139110.17, AC003083.1, AC087431.2, AL159152.11, AC007773.1, AC008427.7, AL138703.10, AC079631.16, AL133370.4, AL109753.9, AL512310.3, AC019041.8, AL160413.7, Z82205.1, AC016831.1, AP001692.1, AF017104.1, AL157915.3, AL355365.10, AC000112.1, AC003012.1, AL392087.7, AP000077.1, AC025226.4, AP001683.1, AC006249.1, AC007000.2, AC004605.1, AL158158.14, AC005668.1, AC022467.7, AC006239.5, Z98304.1, AL359085.14, AP000506.1, AC007262.4, AC034245.4,

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HSAPH65	277	545459	1 - 586	15 - 600	BF793712, AW080832, A1693734, BE869501, A1564525, BF037343, AW475057, AA523950, AV719716, AW024144, BF827012, A1185475, A1197788, AV660309, A1708671.
HSAPD74	278	460527	1 - 956	15 - 970	BG056446, N32720, AW152171, AA339555, AA076697, AA525291, AA380007, BE734992, AA077031, AA379882, BE047929, AA515728, A1282253, AA683069, AW275432, AW274078, AA533025, A1675615, AL040054, AA644090, A1345123, N42169, AW023111, AV756491, A1962030,

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HSAWZ41	279	580872	1 - 1374	15 - 1388	<p>AI547110, AI344906, AI318548, AV683406, AA425283, AW162314, AW409621, AI174703, AF126947, AA493546, BE139230, AV758849, BE677164, BG003974, AI065031, AA280886, AV763460, AA584360, AI251024, AW504667, AA533660, AW021674, AA493245, AW162332, AA313025, AA524604, AA557945, AW410844, AI028148, BF882222, AW069110, BG180320, AA577706, AW963552, AI890283, AU120423, AW474825, AW514844, AW023975, AI003068, AI281622, AI275989, AA601376, AI753131, AW151848, AI754926, AW662484, AA533066, AV762541, AI114543, AW265468, BE244308, AI572680, AW085811, BE747923, AV760048, AA636077, BF882223, AV764119, AA515727, AW875184, AI797998, BF970107, AW962971, AI732690, AI174827, BE049409, BE042324, AA828840, BG059139, AI921744, BF724416, AA084439, AA748071, AI446618, AW963489, BF942991, AI813920, AA807704, AI826857, AI732720, AA702637, AW439224, AI755227, AA640305, AA658443, AA804177, AI431442, H62123, AA676462, BE080768, AI114755, AA535558, AW501278, AL121039, AW631267, AI702049, AW262946, AV712092, AW403177, AW979200, N99245, BF944618, BF445745, AA601712, AW162762, AW409626, AI064968, AV732057, AW855527, BF876005, AW157128, AW148964, AA663579, AW847344, AA086042, AI859368, AI571894, AA507623, AA046906, AA554289, AW085626, AW151247, AW148821, AI821901, AI570067, BE882869, AA600127, AW103990, AA632355, AI640717, AL039436, AI828721, BF949151, AA157876, AW084152, AW960129, AA618531, AI744890, AI252005, AI038029, AI254463, BE967607, AA809125, AW771679, AW975150, AA419230, AA167656, AL046620, AI733523, AV706458, AW166996, AW022796, AV683668, AC015541.21, AC026162.5, AC018816.5, AC004953.1, L44140.1, AC008891.7, AC009131.6, AC020934.7, AB043547.1, AC079844.3, AL080243.21, AC008264.10, AL137792.11, AC008754.8, AP001711.1, AL139100.9, AC007376.9, AL031680.20, AP002847.2, AC005971.5, AL354943.9, AC010319.7, AC006468.9, AC005236.4, AL391119.8, AC011462.4, AC006241.1, AC018663.3, AL031296.1, AC005696.1, AL050308.9, AC011446.6, AC020931.5, AL445184.11, AC006452.4, AC005527.3, AL049869.6, AC011531.7, AC008649.6, AL022336.1, AL034405.16, AC016602.6, Z83826.12, AL022165.1, AL354707.17, AC004019.20, AC002306.1, AP001712.1, AC020916.7, AC009996.7, AL096840.25, AC004167.1, U80017.1, AC002991.1, AC006538.1,</p>

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HSAXA83	280	545051	1 - 635	15 - 649	BE275396, BE275061, AA313781, BF977059, AI640202, AV709881, BE677876, AI291229, BF693434, AV710052, AI366963, AW137805, AI968874, AV744018, AV708132, AV688915, AA083495, AA336782, BG258938, BE142105, BF896038, BG031184, BE168021, BE890609, AV752295, W25439, R18412, BE903633, BC008739.1, AF164793.1.
HSAYB43	281	604143	1 - 1685	15 - 1699	F17610, BF109566, AC026185.3, AC067941.7, AC002527.1, AC007263.4, AC006581.16, AL445237.16, AC005220.1, AL139415.10, AB045358.1, AP001711.1, AC013751.6,

HSDEK49	282	1352253	1 - 1768	15 - 1782	AC004104.1, AL109628.5, AL121986.12, AC005086.2, AC011890.4, AL512378.7, AP002532.1, AP001712.1, Y10196.1, AC005883.14, AC026672.44, AP000036.1. AL513706, AL513705, AV700980, BF343961, AV710516, AV716397, AV715849, BF351156, AV717025, AW071975, AI922669, AI129815, BF106386, AA702864, W32947, AV690218, AV685715, AV693576, AV686846, AV695322, AV697709, BF924861, AI168499, AI343825, AA627735, AI554367, AI335089, AV697729, AI290781, AA875852, AA442570, AV686969, AV698914, AA486920, AI357884, AI088635, W79882, R39812, AV683817, BF932594, W17367, N78991, AA972857, R62969, R59135, AW961380, R56601, BE857524, R66262, W74268, AA436814, AA813538, H05057, AA133776, Z43556, R14044, R81029, T48889, AA228697, R56602, AA142932, R63023, Z39624, F02373, AA993978, R66723, R67603, R59136, R80928, AA133775, AW874480, T48888, AA228698, AA368546, BF525711, AA115592, AA328299, AA486747, BG001652, AJ132502.1, AL034397.1.
HSDFI26	283	834619	1 - 1191	15 - 1205	AI770009, BE467511, AW593206, AA434584, AI767843, AA780308, AA563708, AA317400, AA433906, AB021123.1, AC005598.6, AF361936.1.
HSDJI82	284	460602	1 - 448	15 - 462	AW594636, AA610164, AL050309.4, AC011445.6.
HSDSB09	285	1301498	1 - 795	15 - 809	BF432333, AI861851, AI240993, AI795956, AI074484, AI640759, AW006868, AW241621, BF592070, AW271387, AW614840, AW450466, AW243423, AI244694, AI640517, BF431431, BF431530, AI439169, AI613108, AI915938, AI984796, AI245393, AW300335, AA931466, AW235983, AC005722.1.
HSDSE75	286	545057	1 - 1137	15 - 1151	AW378251, BF349814, AA687791, BF739001, AW378183, AA661723, H61383, T88677, H62404, AA43169, AW339864, AA458622, AA252063, AI129690, AW960791, AB006755.1, AB006756.1, AB006757.1.
HSDZR57	287	651375	1 - 294	15 - 308	BE255995, AW473473, AW206723, BE312252, AI571368, AI810895, AI479711, AI656582, BE676619, AI492370, AI929750, AI762058, AW271956, BF591321, BF434884, AI500262, AW612319, AW085870, AI627969, AW168428, BE796769, AI767097, AI205848, AA632229, AI565786, BG033526, AV729047, AA876257, BE563237, BE905450, AA478285, BE257238, BE878838, BF664024, AA641693, AA478343, BC002907.1, AK000519.1, AC008755.6.
HSIDJ81	288	589447	1 - 1289	15 - 1303	H27567, H27494, H71543, AI754653, BF857849, AW023111, AI521525, AW572721, AW963450, AI254770, AI926102, AV701462, AW020150, AI871973, AW500534, AW275432, AA218851, AA595661, BF854170, BF853574, BF853009, AW151247, AA536040, AW274078, AW958962, AI791659, AA669238, AI223626, AI249853, AW302048, BF725844, AI284543, BE139139, AW855625, AL042621, AW575000, AI801505, N68677, AI250552, AV758870, AW272294, H86725, AW851405, AI625604, AI251034, AA525807, AW075979, AI697235, AI090377, AA570255, AA702637, AV760014, AA729387, AA831426, AI697239, AI697242, AW504224, AI879951, AW502949, H77492, AW514065, AI224583, AV759203, BF527070, AA491767, AA229496, AL158830.17, AC005412.6, AL355855.23, AL132718.5, AL391868.15, AF285442.1, U91321.1, AP000505.1, AF129756.1, Y14768.1, AB000882.1, AL353804.22, AC005013.1, AC004448.2,

AL139415.10, AC009309.4, AC091529.1, AL391122.9, AC009996.7, AL354836.13, AC010530.7, AC005274.1, AC007242.3, Z98048.1, AL354861.11, AC006121.1, AC007685.2, AC020552.4, AC008126.9, AC090509.1, AL096701.14, AC090951.1, AC066597.4, AC068319.4, AC006581.16, AC005332.1, AL117334.29, AC005200.1, AC024163.2, AC005632.2, AL031447.4, AL163279.2, AL355074.5, AL121586.31, AL021546.1, AJ295844.1, AC005484.2, AC013717.8, AL445196.7, AC007255.4, AC008760.6, AL136219.17, AL160274.9, AL031277.1, AL390037.16, AL031658.11, AC012170.6, AC005102.1, AC026464.6, AF228703.1, AC008068.4, AC005921.3, AL121808.4, AC004699.1, AC009412.6, AL031311.1, AC007216.2, AB053170.1, AL109965.34, AC009488.5, AF312915.1, AL132713.11, AL133173.19, AC087225.1, AC022516.4, AC009314.4, AC007376.9, AL034420.16, AC007850.29, AC005280.3, AL449305.4, AC020913.6, AC010326.6, AL391259.15, AL512885.4, AC004824.3, AC024168.4, AC009137.6, AL023575.1, AC010271.6, AC011446.6, AC004000.1, AC090005.1, AL121594.6, AL031726.22, AC005180.2, AL136305.14, AC006251.3, AL139316.5, AC007262.4, AL109963.4, AC012085.4, AP000503.1, AC005995.3, AC007041.3, AL121903.13, AL139039.17, AL121973.2, AL022326.1, AC073101.7, AL359986.15, AC006449.19, AL356257.14, AC019206.4, AL358237.13, AL138720.19, AC006457.3, AL162458.10, AL034380.26, AP002436.3, AL445143.2, AC010223.5, AL157952.8, AC007707.13, AL031293.1, AC008641.6, AL357315.14, AC003080.1, AL138688.27, AL138752.5, Z95115.1, AL158207.15, AC004840.3, Y10196.1, AC005859.1, AE006465.1, AL356115.9, AC018492.6, AC006455.2, AC018764.6, AL117348.25, AL049835.3, AL118520.26, AC004491.1, AC005480.3, AC090518.2, AC010618.7, AC005940.3, AF111168.2, AP000213.1, AC018636.4, AL356299.16, AC091493.1, AL136179.15, AC005257.1, AL096791.12, AL139113.21, AP000135.1, AL357518.15, AL021808.1, AL133453.3, Z93017.6, AL365444.11, AL390838.26, AL445669.9, AC008812.7, AL513008.14, AC007537.3, AC004447.1, AC003029.2, AC026776.4, Z97054.1, AC005399.19, AC010412.7, AL133466.22, AL136164.8, AC005527.3, AP000031.1, AC010616.5, AC074295.7, AC090532.1, AC004846.2, AC018808.4, AP001724.1, AC005529.7, AC004551.1, AL353777.18, AC004686.1, AC008044.4, AC018663.3, AC004873.3, AP001412.2, AL022316.2, AF064858.2, AC008279.3, Z94801.1, AC010363.6, AL162390.9, AC005070.1, AL078596.8, AL590762.1, AC079177.21, AC003101.1, AC004644.1, AC006101.3, AC005516.1, AL353798.9, AC002037.1, AL049576.19, AC008784.6, AC011455.6, AL162584.9, U82828.1, AF134726.1, AC009319.19, AC007541.9, AL136295.3, AC013449.8, AL132780.5, AL109952.15, AC005081.3, AC007991.7, AF168787.1, AL136304.10, AC004789.1, AL354808.24, AC027130.5, AP000152.1, AL138958.18, AC020633.3, AC004813.2, AC018500.3, AC006077.1, AL109956.19, AL139317.5, AC004851.2, AF243527.1.					
BF338364, BG253437, BG122685, BF037455, AW303375, AW173315, BF037378, BG120262, BG117983, BF915045, BF057308, BG252401, BG034853, BF793365, AW379378, BF826037, AA570507, BF915582, BG122734, W07328, AA600736, A1971935, BE697573, BE313814, A1090486,	289	1352409	1 - 4398	15 - 4412	



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HSKGN81	290	676075	1 - 1893	15 - 1907	BG110811, BE745101, BE743722, BE545826, BE745120, BF681303, AW978606, AV702796, BE047756, BF848815, AW961578, AA446896, AI422823, BF848816, AI911304, AI038608, AA312710, AI143843, AI150244, BF829479, AI193547, AA705005, AI268239, AI140112, T65948, BE547522, AA393113, AI366477, AI085862, AI074853, AI277116, AI983894, AA394060, AA643650, AA100891, BF819277, AA922511, AV762171, AA478086, AI689302, AI275103, AI359079, AA532473, AV729423, BE349933, AI287604, AA477628, AV704180, BF847512, AI921910, AW105712, AW370596, AI624549, AW149890, AA505962, AA321215, AI357856, AA292337, BE292730, T34097, AW439882, AA447016, AI914726, R42595, AI858704, AI446219, AI275944, Z43230, BE707350, AW194214, AA135290, AW378090, BE241555, BE243232, AA010669, AW953547, AA632244, AW662488, BG057144, AW068278, R12726, BE151809, AW674205, T74373,

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HSLCQ82	291	1352226	1 - 1462	15 - 1476		BF116042, AA454571, AW192766, AI278160, H24834, AI091291, AA456465, AI242593, AA098966, AI379014, H24785, AA921986, BF745395.
HSNAD72	292	467397	1 - 847	15 - 861		AW971203, AW861646, AI610321, AI880774, AA829195, AI880765, AA551170, AI969833, AA133550, T61620, AV758870, AA557945, AW873417, AI635819, C06160, AV761107, BE268727, AA743968, AA845333, BF574331, BG222875, BF946125, BF882222, BE068993, BF946124, AA493841, AW169469, AI251576, AI821901, BE044000, AI701898, H86399, H47461, AI338426, AI926093, AC009086.5, AC003007.1, AF001549.1, AC004638.1, AC018868.4, AC008747.5, AC090527.3, AL050318.13, AC078846.2, AC006254.10, AL035462.21, AL355476.12, AC026431.3, AC087091.1, AC005245.1, AL031311.1, AL136981.22, AL391241.21, AC010422.7, AC010267.6, AC011609.9, AC006538.1, AC006483.3, AL353807.18, AL049776.3, Z98200.8, AC067722.21, AC010913.9, AC008622.5, AC018828.3, AL080317.11, AC005484.2, AC022383.3, Z97989.1, AL117258.4, AC004531.1, AL121594.6, AL161656.20, AL122020.5, AL157372.18, AC067742.5, AL021453.1, AL390074.17, U47924.1, AC005077.5, AC002404.1, AC008482.5, AL035404.20, AL136124.10, AC005519.3, AL359983.7, AC005932.1, Z74739.1, AL034402.9, AC004813.2, AL136304.10, AC007386.3, AC022392.4, AL136979.16, AL031660.16, Z83844.5, AP000279.1, AC004975.2, AC011462.4, AL139809.16, AL450226.1, AC007193.1, AC008812.7, AC025588.1, AL445212.9, AL121890.34, AC011497.6, AC008752.6, AP000688.1, AC007216.2, AL356915.19, AP000106.1, AF207550.1, AC016742.10, AC005620.1, AC022384.4, U95742.1, AC004000.1, AL117381.32, AC011479.6, AC007285.3, AC008484.5, AC005755.1, AL157838.24, AC023790.21, AL162724.16, AC011487.5, AC000353.27, AL137077.31, AL031733.3, AL445490.6, AC025165.27, AC018711.4, AL354707.17, AC006251.3, AP000038.1, AL590763.1, AF129756.1, AP002852.3, AC005602.1, AC010170.3, AC005041.2, AL050302.2, AC005821.1, AC004846.2, AC003041.1, AL133238.3, AL031575.1, AC005257.1, AL137918.4, AC007163.3, AP000555.1, AL135905.6, AC020915.6, AP000047.1, AC025280.4, AL117330.6, AL135927.14, AC007227.3, AL049868.20, AL133367.4, AC007686.5, AC005365.1, AC006511.5, AL163203.2, AC020928.6, AC007298.17, AC009756.9, AC005666.1, AL359091.10, AC006515.7, AL139353.3, AL136170.12, AC009238.4, AL353804.22, U91323.1, AL160236.4, AL450224.1, AL159997.14, AP001724.1, AC006452.4, AL158830.17, AC004812.1, AC007751.3, AC004675.1, AL080243.21, AL246003.1, AL354932.26, AC009488.5, AL391987.15, AP000213.1, AL354935.23, AL158813.16, AP000744.4, AC002543.1, AC010271.6, AL138878.10, AP000558.1,

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HSNMC45	293	1352201	1 - 573	15 - 587	AA377442.
HSQFP66	294	460537	1 - 463	15 - 477	BE465277, BF593260, AI765036, BE181153, BE181155, AA834498, BF365438.
HSRFZ37	295	892171	1 - 1916	15 - 1930	AC006159.3, AF125348.1, AC084730. 2.
HSSFT08	296	589978	1 - 777	15 - 791	AA602964, AA609200, AL133255.13, AL157879.7, AL009030. 15.
HSSGDS2	297	1352343	1 - 2411	15 - 2425	AU140435, AI609706, AU118420, AI831837, BF529529, AI554814, BE786730, BF984481, BE872435, BE899402, BG179330, AI479884, AI982533, AI690830, AI346254, AI828401, BF094552, BE881525, BF094556, BE669959, BG037013, AW471268, AI561157, AI638805, AL037237, BE855637, AW296244, AI566243, AW675774, AI401405, AW673452, AI476445, AW001226, BF679313, BG057709, AA127685, BE907977, AA861929, BG260609, BF237821, AW956800, AA447921, AI571901, AW589479, AI766919, AI473830, AA938585, AU144989, AI262410, AA559052, AI446187, BG008928, AA917796, BE503565, AI275823, AW470299, AI277785, AI861789, AI167155, AW008965, AA905576, AI167659, BE218804, AI493520, AI281278, H99336, BE710637, AW205944, AI752329, AI752330, AI765810, AV653987, W52643, BF946032, AW168159, BF945858, BF316720, N26442, AA972078, AI817934, AI264423, W45166, AI557365, AI264431, AI288175, BE549758, AA442622, AI824617, AA919004, R70430, AA857204, AI368414, BF593079, AI418025, BE898318, AI262064, AA678751, BG057197, AI084548, W44908, H42841, AI827422, BE771829, AW449397, R48178, N93753, H72494, AA339568, BF108797, BE771822, R44778, BE091331, N88020, R48179, BE003856, AA678750, BE717116, AA837786, AW452952, BE828508, BF663442, AA975074, R19112, D11951, AI391505, BE814402, AI424232, AA436865, BF765542, AI420371, R82965, AW511561, AA541734, BE774069, AI867545, AA367966, AA385530, AA732924, AI371313, BF740054, AI828905, BF957657, H53943, BF764296, BF742191, T10746, F31373, AI559802, R09272, BG116091, R69447, AA303616, BE301258, W78796, W52012, BF956541, T07614, AW439006, T75428, BF917390, BE179163, AI086470, BF821360, BE938534, AA577454, BE301248, AI869470, AU076647, BF001674, AI086839, W94113, U94831.1, AL136295. 3.
HSSG82	298	618535	1 - 1529	15 - 1543	AW964177, BF663662, AW603820, AI884560, AA398834, AA054137, BE503763, AW613529, BF509801, AA378851, H86275, H84069, BF346487, BF754228, AA327575, AA421165, BF686426, AI825151, BF476556, AI700323, AI591094, AW206900, AI948671, AI695979, AI632290, AW204774, AW134977.

HSUBW09	299	413246	1 - 1007	15 - 1021	AI991103, AI765351, AA703513, BF939824, AI925701, AW295389, AW976578, AI199421, AI422698, AI934983, BE501421, AI127932, AA703493, AW297092, AA677025, AA848037, AA814098, AW404152, AW904298, AW182186, AW197850, AA741121, AA651794, AI678148, AA906044, F18680, AA743764, AI632270, AW590435, BE045258, AA608892.
HSVBU91	300	596868	1 - 713	15 - 727	AW839808, AA077633, BF919965, AC008171.3, AF041056.1, AC004089.25, AC005081.3, AC005015.2, AB006629. 2.
HSYAV50	301	847358	1 - 2787	15 - 2801	BF313680, BE742185, BE383304, BE741869, BF526599, BE619099, AI341487, AI971709, AI623222, AW593800, AW959076, AI983635, AI952164, AW275114, AI800442, AA977038, AW513859, AW273202, AW337946, AW273147, AI801910, BE463718, AA250733, AW072844, AI453134, AI818468, AI086791, BF329916, AW166266, AW300481, AI561259, AW103087, BE048584, BE907359, AW470887, BF063936, AI207341, AW235230, AA448721, AW206033, AW175624, AW193322, AW193240, AI128968, AW264492, AA410939, AI682412, AA455784, BF525380, AI631778, AW771868, AI669677, BE619620, AI128695, AA448630, AA456607, AW239315, AW195959, AI825128, AA327876, AI168173, BF376618, N79049, AA349394, AI470892, BF194812, D79030, AA902669, AI569983, AI682120, AA385255, AI052433, AI948815, W24199, AI735600, W24193, AI214684, AA770139, AI672486, AA769789, N91773, BF944570, C02034, AI955870, AC005222. 1.
HTAEE28	302	1018291	1 - 1327	15 - 1341	AW195720, AI765273, AI817356, AI928166, AI283845, BE503396, AW081502, BE349083, BF059350, AA419437, AA758800, AW206944, AA933673, AW104261, AI627565, AI264565, AW469909, AA845240, AA332515, AL021453. 1.
HTECC05	303	1352365	1 - 825	15 - 839	AA437009, AI806582, AI040972, AA442839, AA759268, AI214390, AI799076, AA918443, AW195596, AA910234.
HTEEB42	304	206980	1 - 1008	15 - 1022	AL522795, AA725566, AI421450, AL522796, AI199779, AA406389, AA912674, AW022835, AI952846, AI123727, BE218057, AW022646, N90730, BF846982, BF845761, AI652914, BF056970, AW020783, AI312805, AW393829, AI017553, AW393887, AW474261, AW264246, BF848293, AI366088, AI418268, T89217, AI052637, AW082343, BF221504, AW593293, AA865038, AI201753, BF091146, AI140139, AA987434, AA410345, BF846977, BF846980, AW900593, BF932982, BF932991, AW865421, AW136481, AI650503, AI432092, T89127, AA974715, AW261924, BE938414, AF255910.1, AY016009.1, AP001694.1, AP000087.1, AP000225.1, AP000226.1, AP000086.1, AP000223. 1.
HTEFU65	305	543396	1 - 1014	15 - 1028	AW072387, R83559, AI924465, AI364031, AW513660, BF361111, AA705541, AL162032. 1.
HTEGA76	306	381995	1 - 436	15 - 450	BF059486, AW293425, AI190540, AI201137, AI026778, AI016787, AA604883, AW172655, AA393061, AA709172, AC002456. 1.
HTELM16	307	834058	1 - 517	15 - 531	AI651078, AW193716, AA833735, AI656090, AA939044, AI005061, BE550563, AA972135, AW173087, BE551605, AI807541, AW235353, AA769984, AI631437, BF755659, BF755660, AA910026, AI954833, AA442458, AW236934, BF478195, AW291899, AA807414, AW003815, AA436650, AI001919, W26260, AW070283, AW302924, AI344928, AI344933, BF968779, AI335449,

HTELP17	308	836072	1 - 794	15 - 808	AL031650.22, AL121751.12, AW976593, AW275003, BF103848, AA744857, A1458735, AW013800, AA453589, A1684921, A1184517, A1376535, AA621297, A1970221, AW015543, AA969112, AA992291, AA442130, W01308, H72782, AL519628, AA129060, AA460996, AA721433, BF665557, BE170715, AA460649, BG035897, H72781, A1382100, AW541499, AW800324, A1806305, BF885871, A1868710, A1241242, BE386136, AV723953, R75918, N75771, A1865320, A1355277, A1500061, AW088944, A1491842, BE544111, A1866469, AW007955, A1800464, A1335426, A1348777, BE891834, BG179438, AW409772, AL037582, AL037602, AV758017, AV712838, AV713988, A1536563, H42557, AV713143, AV755673, AV702147, A1174799, BE881061, BF814357, BF797305, AV721644, A1345010, AW021717, BG029829, BF793891, BF909758, A1538817, AW827289, AL037454, AW025279, AA766104, AV717730, A1817523, AL046942, BG001293, BF969354, A1554818, BE887537, A1583032, A1473536, BE789373, A1582932, A1590043, AV714010, AV717397, BG121959, AV706915, AV706624, AW027374, AA744531, AV703585, BF924856, A1819545, BE883591, AW196078, A1811631, AL036705, A1929108, BF997967, A1345745, BF921291, BE964497, A1279925, A1873638, BG029053, A1923989, A1288152, A1305745, A1539800, BF816685, A1567582, AL040694, BF751288, BG166654, AL039276, AW090102, A1440238, AW161202, A1309306, A1401697, A1679959, A1345131, A118781, AW078818, A1628325, A1697324, A1471429, T69241, A1470293, A1687568, BG033723, BF826429, AW965840, AA603709, A1371786, A1376748, AL043355, A1499986, BG032919, A1866770, BF924855, AW827211, AW059713, BG107590, A1125884, A1866465, BF092710, BE612681, AV750565, A1452707, A1446721, A1912438, A1288335, A1371243, AW020425, A1568138, AV682249, AV763927, A1972112, BG164558, BF811802, AW020397, AV713908, AW160905, AV681643, AW150826, A1864102, BG031447, AW193467, BG171892, AW162189, A1345415, AA514684, BE927769, AW059765, AL039274, AV648334, BF792047, BF970768, A1866780, A1570140, A1648663, A1363957, BF341210, BF792781, BG253033, A1890887, AL045626, BE957870, A1560679, A1434969, AL110306, A1561228, AA652505, AW172723, A1802244, AW022494, BE536058, AV705066, BF904265, AW410430, BF752997, AW183130, N81164, A1954293, AL120254, AW163464, BG112644, AW021662, A1571000, BG165979, A1927256, A1250852, AV682289, BF812963, A1336575, AL040241, AV682300, A1799364, A1445620, AL040449, A1656270, BF337602, BE965724, BF814412, BG260037, AA806719, AW264895, BE964614, BF904180, BF032768, AW151132, BE965432, A1474646, AW089664, A1653769, AW089275, AW020095, A1434656, Z99428, AW834325, A1923833, A1285419, BG122101, AC000077.2, AK026885.1, BC008365.1, AK024570.1, AB063093.1, Y14040.1, X82434.1, AL136748.1, AF078844.1, AF073483.1, AF285836.1, AL050092.1, AK025958.1, AK025414.1, AK025435.1, AL122118.1, BC003591.1, AF218006.1, AK026613.1, AF218023.1, BC007522.1, BC003410.1, BC007534.1, AF090901.1, AL133072.1, AL136882.1, AK026583.1, BC004310.1, AB062978.1, AK025407.1, AL389935.1, A136884.1, AL512719.1, AL359596.1, AB056420.1, AF090903.1, AK026556.1, Z82022.1, AL110280.1, D83032.1, AB055805.1, AL137283.1, AB060826.1, AF262032.1, AL133049.1, AK026608.1, BC001328.1, AK027164.1,
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HTELS08	309	847090	1 - 1884	15 - 1898	AW664990, AA608835, BE972717, AA383680, AW572898, AI028204, AI554902, AI138881.
HTEPG70	310	834931	1 - 799	15 - 813	AW001355, AA426091, AW182920, AI698237, AA844647, AW592578, AA436649, AA936263, AW072458, AA678521, AA442457, AC005789.1, AC005625.1.
HTGEP89	311	410582	1 - 689	15 - 703	AV762334, AI300541, BG109719, AW663660, AA988368, AA927889, AA417006, AI206569, AA417219, AI005145, AI810124, AA723941, AA620800, AA917882, AA912169, BE927871, AA732367.
HTHBG43	312	919911	1 - 834	15 - 848	AA830144, AW196413, AW662711, AA346392, F01235, Z28908, AA704393, AV754716, AA602906, AI061313, BF804385, AA284247, AI609972, AW265614, AA491955, AW872574, AA715814,

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HTHDS25	313	772559	1 - 1047	15 - 1061	AI801504, AA385855, AA812703, AA349881, AI254831, AW293292, AI963714, BF674168, AW967329, BE241437, T08386, AI521458, BF855114, AL357075.17, AL031668.23, AL358976.11, AP000067.1, AC004089.25, AL357519.19, AC005015.2, AL034417.14, AC004491.1, AC004962.1, AL133353.6, AC004634.1, AC022027.5, AC060231.6, AC004084.1, AB043547.1, AP000304.1, AL139390.15, AP000047.1, AL080243.21, AC004841.2, AL035685.21, AP000115.1, AC008957.7, AL035684.25, AP001717.1, AC015982.9, AC020916.7, AL139230.25, AL096773.6, AL137073.13, Z85996.1, AC010386.5, AC005098.2, AC003010.1, AC004166.12, AC005488.2, AC012170.6, AC005972.1, AC008507.8, AC008569.6, AL049198.2, AL133354.14, AL357507.9, AC008771.4, AB014077.1, AC011479.6, AC079171.21, AC004156.1, AL157823.9, AL356464.15, AL138976.5, AC002126.1, AL133507.8, AL024498.12, AC008766.4, AC020904.6, AL035073.7, U91323.1, AC005103.3, AL078633.32, AF047825. 1.
HTLEP53	314	634852	1 - 804	15 - 818	BF876683, AI755202, AI066646, AW613805, AA084609, AW769151, BE169870, AA601674, AI561210, BF926568, AW265614, BF826830, AI613389, AL042667, AL042670, AW130427, BF868994, AW471092, AV760019, AW576485, AI281818, AA225956, N64587, AU157209, BF941382, AI340151, AI859834, AW328202, AV754716, AW501278, BG222269, AI955029, AL134440, AI799569, BG250286, AW518030, AW576437, BF725884, BE396138, AW974363, T05118, AA524616, AI732682, AW268329, AI192440, AA669741, AW166920, D58782, AI653493, AW238341, BE301068, AI955718, BF923179, BF526964, AW438850, AW438662, U95742.1, AC019205.4, AC027125.4, AL356299.16, AC007216.2, AC008649.6, AC005484.2, AC005098.2, AC005740.1, AB020868.1, AC008569.6, AL359091.10, AL136527.9, AC005527.3, AC005000.2, AC005529.7, AL121809.6, AC090883.1, AC006312.8, AC004166.12, AF250325.1, AL008726.3, AL139396.17, AC010913.9, Z85987.13, AL590762.1, AL121658.2, AJ246003.1, AP001781.4, AP001694.1, AC004867.5, AL133312.3, AL513550.9, AC008507.8, AL022476.2, AC005520.2, AC068533.7, AL160163.24, AC011485.6, AF111167.2, AC002544.1, AC004702.1, AL158141.14, AC005071.2, AC007191.1, AC005229.1, AL357515.26, AC010412.7, AL161670.4, AF196972.1, AL135927.14, AC007227.3, AC083884.6, AC004089.25, AL445483.13, AF165926.2, AC009060.7, AL359235.3, AC002350.1, AC005952.1, AC007052.4, AC020558.4, AL035071.17, AP000510.2, AC007731.14, AL121586.31, AL354815.10, AC005500.2, AC006014.2, AC005015.2, AL161893.24, AC005726.1, AC004985.2, AL161725.13, AC002390.1, AL450265.11, AL353135.32, AL160231.4, AC026672.44, AC004466.1, AC060231.6, AL360227.17, AL117382.28, AL021397.1, AC083863.2, AC011487.5, AL158824.11, AC018638.5, AL031283.26, AL121761.5, AC004242.1, AL020993.1, AL512641.9, AL121936.17, AC005280.3, AL035587.5, AC020916.7, AC067941.7, AC009812.17, AC012476.8, AL136228.8, AP001728.1, AL354808.24, AL049561.16, AL352984.4, AP000046.1, AC010378.6, AC000381.1, AC006480.3, AC006023.2, AL050308.9, AC005531.1, AL049776.3, AP000114.1, AC008551.5, AL031680.20, AL391827.18,

					AP001360.4, AL354707.17, AF111168.2, AL031683.2, U89337.1, AC010605.4, AL035367.5, AC002546.1, AL138724.12, AL033521.2, AC020906.6, AC078846.2, AC006452.4, AC007003.4, AC009244.24, AL049547.10, AL163279.2, AF064861.1, AC000025.2, AC027319.5, AL391280.15, AC008083.23, AC004253.1, AC008598.5, Y10196.1, AL049766.14, AL512666.6, AL138784.30, AC008891.7, AC004840.3, AC083873.3, AC005377.2, AC000360.35, AL049637.43, AL512378.7, AC008753.8, AC005488.2, AF001548.1, AC010422.7, AC009179.17, AC008623.4, AC004876.2, AP001717.1, AP001709.1, AC011465.4, AP000901.5, AL160471.5, AC006329.5, AL034405.16, AC008521.5, L44140.1, AC008481.7, U15177.1, AL162578.13, AC006449.19, Z97876.1, AC016830.5, AC008946.6, AL137792.11, AL109743.4, Z83844.5, AL049631.7, AC025275.4, AC091736.1, AP002453.3, AC006512.12, AC004491.1, AL356095.11, AC005291.1, AL136297.3, AC003982.1, AL022318.2, AC009086.5, AC005736.1, AC004824.3, Z84466.1, AP001670.1, AL157823.9, AC018904.6, AC002425.1, AF312032.1, AL109806.22, AL035413.19, AC006027.1, Z84469.1, AL513366.11, AC011737.10, AF196779.1, AC026756.15, AC008745.6, AC090527.3, AC006038.2, AC005318.1, AL391137.11, AC010543.8, AC005081.3, AC005522.2, AC005231.2, AC013726.7, AL109804.41, AC005399.19, AC004832.3, AC022148.5, AF134726.1, AC022007.3, AP002851.2, AL136084.11, AL031295.1, AP001748.1, AL121834.20, AC007686.5, AL049872.3, AL049569.13, AC016993.4, AC004805.1, AL133551.13, AL136966.27, AC004167.1, AP000237.1, AL117186.3, AL161747.5, AC005288.1, X54156.1, U94788.1, Z99127.1, AC016691.10, AC016025.12, AC010526.7, AC004890. 2.
HTLGE31	315	1035130	1 - 520	15 - 534	AA714179, AW051497, AI971919, AI094911, AW055123, AA293722, AI094408, AA631985, AL445222.9, Y17801.1, AJ245937. 1.
HTLHY14	316	838460	1 - 1018	15 - 1032	AW182303, BF530991, AA885453, AA913620, AI024359, AI218809, AA436925, AA904573, AA729136, AA448181, AA431731, AI768931, AI138595, AA868685, AV721013, AI191602, AA970192, AI004977, H19402, AA496009, T19190, AI024060, AI015490, AA860370, AW081876, T05239, AA810634, AA609572, AA824562, AA789135, AA904853, AC005328.1, AC005545. 1.
HTLIV19	317	1046341	1 - 964	15 - 978	H73550, AA715075, AA425924, AI792525, AA303049, AA715173, BF895531, AW086361, AV733366, AI348722, BE168680, BF880342, BF725844, BE464794, AI862231, AL033519.42, AL138706.9, Z82244.1, AC004000.1, L78810.1, AP002453.3, AL117382.28, AC004491.1, AC005399.19, AL354798.13, AC004867.5, AL022326.1, AC006160.9, AC004805.1, AC018801.4, AC022007.3, AL133444.4, AL356481.16, AL121751.12, AC008687.4, AC002369.1, AL353668.18, AC011495.6, AF279660.2, AL132640.4, AC004263.1, AC009077.7, AC005105.2, AL450169.1, AC025262.27, AC007425.16, AL050349.27, AC004887.2, AL022396.1, AC040160.4, AC018642.6, AP002340.3, AC074331.1, AE006462.1, AC002073.1, AC003070.1, AL031767.13, AL133153.3, AC007263.4, AC004882.2, AL050341.18, AC005921.3, AC007619.22, Z98200.8, AB003151.1, AC008050.6, Z92542.2, AC010305.3, AL157789.6, AC002300.1, AL020997.1, Z97989.1, AL023281.1, AL021707.2, AC079602.15, AC007225.2, AF243527.1, AC008267.6,

					AC007279.4, Z83840.7, AP001694.1, AL096764.11, AL031602.14, AC008895.7, AL391280.15, AC007073.2, AC005225.2, AL109614.28, AC008403.6, AL354808.24, AL138752.5, AL162430.15, AC008569.6, AL450104.14, AC007005.3, AL355392.7, AL133548.6, AL121997.7, AL034380.26, AL117352.12, AC009267.15, U91321.1, AL391827.18, AC022383.3, AC025438.5, AC091118.2, AC074013.5, AC002299.1, AL354797.16, U91326.1, AL034420.16, AC012384.16, AC022212.4, AL096840.25, AC005200.1, AC011489.6, AC008009.4, AL139317. 5.
HTOAK16	318	560744	1 - 1452	15 - 1466	AU145310, AW274654, BF838423, AW139789, AW205436, AA017033, AU118838, T87405, AI143925, AI174470, T87300, AA019253, AK021714. 1.
HTOGR42	319	838160	1 - 1416	15 - 1430	AA573067, H30513, AI266619, R20206, AW084004, AI064724, AW851828, BF031134, AA773890, AA507343, AL031295.1, AL355343.18, AC005031.1, AL354932.26, AC044797.5, AL356019.5, AC011994.10, AL034420.16, U80460.1, AL031281.6, AC022392.4, AC073657.5, Z99716.4, AF196779.1, AC009144.5, L44140.1, AC008440.8, AL049776.3, AL031847.17, AC010378.6, AL136418.4, AL139054.1, AC004797.1, AL353777.18, AL117382.28, AC005231.2, AC008521.5, AC002425.1, AC011446.6, AB023048.1, AL139113.21, AL355480.22, Z97196.1, AC008753.8, AL031685.18, AL160271.19, AL109952.15, AC004999.1, AC021012.5, AL355093.3, AL512883.5, AC007055.3, AF001550.1, Z95115.1, AC008745.6, AL021579.1, AL136304.10, AL121886.22, AC009086.5, AC003109.1, AC004953.1, AC005052.2, AL137229.4, AC005379.1, AC068724.7, AL135744.4, AL121890.34, AL589723.7, AC012170.6, AC005288.1, AC006538.1, D86995.1, AP000098.1, AC003007.1, AC009412.6, AL357497.17, Z83844.5, AL356575.8, AL031680.20, AL354735.14, AC007216.2, AL445071.14, AL136123.19, AP001710.1, AC008372.6, AP000901.5, AC025540.7, AF129756.1, AL355336.15, AP00171.1, AC008149.14, AC010279.4, AC008018.20, AC011487.5, AC003041.1, AL159997.14, AL080243.21, AF001549.1, AL135839.15, AC078962.30, AC008733.7, AP000504.1, AL132713.11, AL365505.15, AC005632.2, U62317. 2.
HTOHT18	320	628300	1 - 1485	15 - 1499	AC004928.2.
HTOJK60	322	545067	1 - 890	15 - 904	AL079734, AI613389, AA129746, AI267356, AW970571, BE048991, AI267450, BF902572, AI133083, AI085242, H07953, AI253376, BG029528, AL038606, BF876179, AI207728, BF868994, AI049709, AA832016, BG222875, AA720774, AW089016, AW995665, BE084668, AA565911, BF821897, BG015615, BF529925, BE256101, AI357823, N30205, AI249447, AI537800, AA632839, AI440117, T74524, BE244243, AA501867, BE000614, BE154781, AA502207, AA084609, AA599080, AI679759, AV760019, AA191659, AA515351, BF678165, AW069412, AI284092, AW265359, AI056177, BE387304, AV757069, BF131490, BE049021, AW970987, AW276678, AW303098, AA584756, AW021627, AI628859, BE893315, AI251034, AA912287, BE501593, BE139139, AU117926, AC084864.2, AC078846.2, AC004815.2, U51560.1, AJ400877.1, AL445490.6, AC024082.6, AC007078.3, Z80896.2, AC012170.6, AJ009612.5, AC005940.3, AL357497.17, AC022415.5, AC008736.6, AL023879.1, AC004520.1, AL009031.1, AP003352.2, Z95116.1, AL356095.11,